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P R O C E E D I N G S

GENERAL WILLIAMS: I'd like to welcome you once again to our panel. This is obviously the sixth year for me, the fifth year for our panel. Our panel cycled in about a year after we got started, so it is sort of historical from that standpoint. So we're looking forward to a wonderful meeting today. Gina has a couple of admin comments before we get started, so Gina, if you would give those now.

MS. PINZINO: Good morning, everyone, and welcome to the fourth Industry Advisory Panel for 2006. I see we have some new faces as well as some old friends. We wanted to, first of all, just make you aware that, as always, if you need to leave the room at any time, we do have members of the OBO staff who will escort you to the restroom facilities. And for lunch, we will follow the same pattern as usual, and that is to have you

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escorted by the OBO staff members to the lunch room cafeteria. So with that, I will turn it back to General Williams.

GENERAL WILLIAMS: Okay. Thank you, Gina. And I know you, the panel, know how important this lady and her staff is to you, so I don't have to tell you that, but we thank you for the organization and getting us going here this morning. It's not easy to do anything in this building because of the complications of it and the like, it just creates a little bit of a problem getting in and out of the building, but nevertheless, we are here.

I would like first to recognize the panel. The panel, I'll just start from my right front and move around.

John Barotti, John is from Clark Construction Group, he represents the Association of the General Contractors. Sitting next to him is Edward Denton, and Ed is the Vice Chancellor for Facilities Services at the University of California, Berkeley, and he represents owners and

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developers.

And next to Ed is Doctor Ralph Ellis, Associate Professor of Civil Engineering, University of Florida, and he's representing the American Society of Civil Engineering. And then, of course, will be joining us about 11:00, he did get his tardy slip from me, so I know where he is, that's Lee Evey, but he'll be here in due time to make his representation.

And then, of course, we have John

Pawulak, John is Senior Vice President of The Donohoe Companies, and he's representing the Association of Energy Engineers. Back with us is S.G. Papadopolous, who has been a -- served the tenure with us here on the Board, on the panel, and we're delighted, S.G., to have you back, always delighted to have (off mike) from this body, and of course, he's sitting in today for Greg. Matt Wallace is back with us again, and we welcome Matt; Matt is with ETI Professionals, Inc. And also Mary Ann Lewis is back, who served also a wonderful tour with us here on the panel, and Mary

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Ann, we're delighted that you're sitting in for Doctor Stephen Kirk, and of course, they are representing the Society of Value Engineers. Gary Haney, our last member, sitting on the end, Partner with Skidmore, Owing and Merrill, and he's representing the American Institute of Architects. That's our panel, and of course, somewhere in the audience they told me we had another former member.

MS. PINZINO: She hasn't arrived yet.

GENERAL WILLIAMS: Okay, good. Well, when she arrives, you will know that, because we'll recognize her, as well. She is Mary Anderson, who will be joining us very shortly. Also we'd like to recognize our court reporter, yes, behind me, so you must speak clearly and loud so that she can record all of this. You know as a part of this process, we have minutes, and these are recorded as accurately as possible, and we use a court reporter for that purpose.

Also, we want to just recognize members from our MSD staff who have been assisting with

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the security and will be helping you throughout today as we maneuver around this building.

There are several here today, the Director is Roberta Kokeesh down on the end.

And, of course, we have champions from OBO and other members of the staff that you will be meeting, as well, who will be participating

today in this particular meeting. This is the last meeting of 2006, and many of you who are invited guests, and we tried to allow any and everyone to come as much as we have accommodation, and we're delighted to see the turn-out that we have today, we'll be recognizing you individually later today. We tried to make those who are visiting with us and watching the process, observing the process, as welcome as possible. And with that, we will give you an opportunity to introduce yourself and give us a comment or two later on today.

Okay. With that, I'm going to give you an update, as I've done for the last five years, on where we are, because it's important that you

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know where we are as we move forward so that we can all be on the same page, and hopefully this will serve as a good launching pad for us to get into the work that has to be done today, and that is to address the last of the five of the Williams 20.

And I must tell you up front, I've been very impressed with the work that I've seen coming in from both sides, and it appears that we have worked together once again. We're going to go through this presentation this morning to get you an update, and we start where we have started for the last five years, and that is the mandate for our function.

Our facilities play a critical role, obviously, particular today in the transformation diplomacy idea that our secretary has advanced. This requires us to take a real delicate approach and put in place facilities that can serve as platforms, because today we're not just building a chancery building. Some of you who may have been associated with our program 20 or so years ago can

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see the difference. So this makes our job just a little bit different.

This next slide gives you some quick facts. And it's important to take note, because

in 2001, when all of this started, there was one facility that was being built per year. This past year we completed 14, and when we said past year, we're talking about 2006. If you recall, it was a dozen last year. So you can see the growth of the program and what has happened.

There's an interesting note from the Office of Management and Budget at the end relative to this program in terms of the effectiveness from a result standpoint. This next slide speaks to our operating philosophy and focus, as all of the panel members know, and many of you who have been with us realize that this is result based, because what we do is tie to a very delicate stream of funding, and the stakeholders are looking for results, and the one versus 14 is what justify the support that we have received from the stakeholders.

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But more importantly, internally, it's about performance, and that's for us in OBO, those who work with us in the private sector, and it's also about accountability, and a discipline process, and all of that has given the project and the program some credibility. We try to keep the communication transparent, that's the whole purpose of having this today, so that, and most of you who have been associated with the program know that we give all of the information, not part of it, but all of it.

This will give a little snapshot of the results. Fifteen facilities here, some of these you've seen before, so I'll just move through them. The next slide shows another 30 that's been complete. And the next slide shows the rest of the story, which gets us to 42. So at the conclusion of 2006, December 31, this Department would have delivered 42 new facilities over the last six years.

Then, of course, what does all of that mean? Because the analytics about this is to

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build them, but there has to be some resulting,

and the resulting is that lots of people, our people, have been put into safe and secure facilities. You see the graph and you see what has happened.

Putting one person -- taking one person out of harms way today is a major accomplishment, but when you get to thousands, that's the value of your service on the Board, this is the value of those who have supported us, that's the in game. The in game is a program that has grown from one to 14 in terms of facility complex deliveries, and taken the number of people out of harms way that we have together done is an accomplishment for our government. This shows the 36 that we have under construction or under design and/or construction. Of course, we personally design build. This 36 is in the harper (?) if you will. Do the quick math, 36, together with the 42, you can see where we are. So what's on our plate today are the 36 that I mentioned, and that's valued slightly over $3 billion. Lots of rehabs and other work, because

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you know, the new construction program, while it is the engine of what we do here, it's not all of the story. There's another collection of close to a billion dollars of work that's associated with the rest of our business.

New facilities that were awarded in 2006 are listed here, and we are gearing them up now to start the actual construction, but the awards have been made. The new facilities that are scheduled for 2007, and we'll be doing a few of these before Christmas, or clearly the early part of January, and the rest will follow later in the year.

Now, the significant activities that have occurred since we last met in this setting, we have opened Astana in the Stands, that's Kazakhstan, that was done about three weeks ago, Freetown in West Africa is done, open, and Bamako in Mali, and also the USAID facility in Nairobi. So we try to keep you up on these opening.

We held industry days, we hope that must of you attended. We've gotten some very

interesting hits from McGraw Hill, as you know,
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who's partnered with us, in terms of watching our program, on the number of interested parties who attended our industry day. And it's been encouraging to see people who have never been close to our program that are very interesting, and quite frankly, encouraging about their line of inquiry. So we made some friends with this past industry day. As you know, it was two days, and we had sort of a match making apparatus which added a little different flavor to it.

I briefed the secretary, Doctor Rice, on this, and she thought it was -- her comment was, that's a cute idea, so that was good enough as a bit of feedback.

Environment awards were made at this same meeting. We held the, as I said, the two day event. We received three nominations for a very splendid piece of work on the energy side, and we'll been talking more about that as we move into this today.

And also, the association of cost, engineering and management; also recognize our
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organization for trying to get it right in that area, as well, so we're appreciative for that recognition also.

Now, the transition between the first four years and last year was the introduction of new ways to think, new ways to build, with that came as a construct, the Williams 20, and we said that we would work on that concept for this particular year, and that's what brings us to the last of the five today. We made a strategic transformation to move from our Six Sigma Settle that we had set in for the first four years because we were about structure, we were about organization, we were about getting our variation in order, getting our organization on track, and achieving some results. So we got out of the Six Sigma Settle and sort of leaned our way into -- over a transitional bridge. We used the Williams

20 as a transitional platform to get people to think different, and then rolled into 2006 in a lean thinking mentality, and that was the purpose of that transition.

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And the reason for that is that there were several wars ongoing, you all know about that, tougher and unsettled issues in Africa and Central Asia that were, quite frankly, separate from the wars, the budgets were getting tighter, and you can imagine will continue to get tighter, cost control became center stage, and that's why any notion about cost estimation and engineering is a very significant one.

Oversight activities are now asking pointed questions about accountability and performance. Work force management flow process, having a process that is not gummed up with a whole lot of traditional bureaucracy and the like is what we're trying to strain out to help our private sector partners and ourselves.

And then, of course, enhanced communication with the industry. When it gets tough out there, we have to communicate plainly and better, and we recognize that. And then, of course, this next slide sort of introduced the implementation, the full implementation of the

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Williams 20. And anyone in the room today can go out and say that we are in full implementation. And if you find anyone who is not in full implementation, pull them aside and say I've been there, okay. The Williams 20 are fully implemented in the fabric and that's the way we are operating. We're trying to streamline the operating process and reduce the touch time and get some of this stuff out of the way so that we can move faster and continue to tackle this program.

And we think we need to take the leadership there and fix the flow in the organization so that it can be very transparent, wherever you're sitting in the organization, you

know the significant nodes that must touched in order to get this project going, and that's what the whole lean process is about.

We've tried to bring some clarity. We heard industry out of this room, we heard industry through various other settings and that we have with industry organizations around. And so for

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that, we took the lead and clarified a lot of items around risk. And for a long time I've been an advocate of risk allocation. You need to know on which side of the ledger the heavy lifting is, and we tried to do that with 13 items out there.

Now, again, if anyone would ask you, are the 13 items embedded in OBO's fabric, the answer is yes. And if you find that they are not embedded, call me up and we will work, if it's stuck in my organization or wherever it is, we'll get everybody's head straight on those. We have to talk today because of some things that have happened around about fraud prevention and all of that.

We gave you a little dose of that training in our industry day. It's good for all of us, because oversight bodies are keen on that. And I'll talked about communication and outreach and the like.

Okay. That's sort of where we are and where we are headed. And this gives a good foundation on which we can begin to close out the

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deliberation on the Williams 20 and begin to look at some other things.

Now, I'll give you a little travel log as we move ahead now. And I thought it would be useful to lay out the SED concept once again, because although it's five years old -- six years old, it still gets a little chatter at times as to what we really mean.

You know we tried to procure ten acres of property, and we promised the private sector that it would be ready to build. On this ten acres we put the complex. So when we talk about a

something, we are talking about this.

It can have anywhere from seven to eight structures on it, as displayed here, but never just one structure, and the menu listed on the left side. So when we talk about a SED, that's what we are talking about, the whole package, because our CAC's (?) now as large as some buildings. If you look at the CAC in Baghdad, it's about as big as this room, place, so it is a massive structure. So we'll move ahead now with

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what some of you have seen before. This is (off mike) this is Dohar. The next is Lima, Peru, all complete. This is Tunis and Tunisia, northern tip of Africa. This is Dar El-Salam, the operational part of Dar. And this is the MSGQ and Dar El-Salam. And then the USAID building also in Dar El-Salam.

I want to pause here. I was briefing our union official that watches the foreign service a couple of days ago in a one-on-one briefing and we were using some of these images, and his comment was that this is really great, why wouldn't anyone want to work there, and let's save that answer for another day.

This is Nairobi, Kenya, up the coast. This is also the MSGQ in Nairobi, Kenya up and running. This is the USAID facility. It happens to be one of the most prominent USAID facilities that we have built in the last six years.

This is Istanbul, Turkey, and this is Zagreb, Croatia in the Balkins. (?) This is Abu Dabi in the UAE. And this is Tirana in a very

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difficult part of Europe, just getting its traction back. This is Macedonia. This is the annex that we sandwiched in behind a very historical building. We had to keep the existing building because it had a lot of history associated. But you can see sort of the standard packages here that's in place.

Sofia, Bulgaria in the Balkans, as well, up and running. Yerevan or Minya also in Europe.

Abijon and Cadevar on the west coast of Africa, a very difficult project to come on line. Abuja in Nigeria, this is in the interior from Legos, it's not on the coast, it's kind of in the center. Luwanda, Angola on the west coast of Africa. Capetown South Africa at the Cape. Yeounde Cameroon, west coast of Africa. Kabul, Afghanistan, with the exception of some punchlist items which we're currently engaged about. Kabul is done.

We reconfigured the 14.7 acres, retained the old building, and as a classified vehicle, built the new hardened facility, built housing,

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and guess what, we also added a recreational package which you can see down in the lower left hand corner, a nice swimming pool, there's a cafeteria right next door which makes the quality of life pretty interesting there.

This is Phnom Penh in Cambodia. Then Frankfurt, Germany, which was a remake of the hospital, is listed here. Tashkent in Uzbekistan is up and running. Tbilisi in Georgia. This is Conakry, Guinea, less than a year old. This is Dushebey, Tezukastan, less than six months old. Astana, Kazakhstan, I mentioned three or four weeks ago, we just opened. Pay attention to the Seol that's in the grand entrance, a wonderful place, and Kohl.

This is Bamako, Mali, hot, this is in west Africa, and not all has happened on the same trip. This is Freetown, Sierra Leone, and a wonderful opening there. Now, I might add that this place, you know what was going on a few years ago, and to be -- to have made a transition and put a heavy dose of the U.S. government on a piece

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of ground that had never been touched from the standpoint of building is a major statement, because right now, this is the most prominent anything in Sierra Leone, wonderful arrangement.

Belmopan, we will dedicate the early part of next week, it's done. Bridgetown,

Barbados, we'll dedicate on the same trip next week, it's done. Been a struggle in Bridgetown because we had sort of a public/private partnering kind of arrangement and there's some lessons out of that.

This is Kingston, Jamaica, it will also be dedicated on the same trip next week, it's done. And we have put some additional work into our Powell Plaza, you know this reworked hotel, now a living area for our people, it's named for our former Secretary of State.

Lome, Togo is getting pretty close, we'll most likely be done in January. Athens, Greece is right behind it, late spring. Acra, Ghana, late spring. Managua in Nicaragua, late summer. Kathmandu and Nepal, before Christmas.

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Panama City in Panama, before Christmas, '07. Algiers, early '08, possibly before Christmas.

Rangoon and Burma is an early '08 completion. Berlin in west German is coming along nicely. You know this is a very delicate area around the Brandenburg Gates there and we don't have the normal ten acres, et cetera, et cetera, but it's moving nicely. Port-o-Prince is a real challenge for us. Speaking to the Embassador yesterday, we're looking at mid -- well, early part of '08, March, April time frame. You can see the atrium coming into play there, but tough going there because of everything that's happening.

Quito in Ecuador is coming along. Scopje in Macedonia, not as well as we like, but we -- that's a little work to do there. Mumbai in India is coming out of the ground, not quite as fast as I would like, but it's a tough condition.

Bejing in China is world class by any description, a very difficult project for lots of reasons, a tough area situated on slightly over ten acres, with all the trimmings I just talked

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about in terms of facilities, but it's going to be a first ever for our government.

Baghdad, for obvious reasons, I'm not

showing images, but trust me, we are 60, close to 70 percent complete. This project will be done by mid summer, that's July 31st. Our people will move in. That's the 24 months that we promised. We are at budget. We have about eight months left to do. The construction quality is superb by any measure. We're using a lean construction management concept there because of the nature of this. We have a challenge every day, and that's to be expected. But we're in good shape from the standpoint of stewardship. It's a tough road ahead, ladies and gentlemen. We have to go into Beirut, we have to do Karachi and all of the rest. And you can add Brazaville in Africa and Harari to that list. The pretty locations are gone, and so you've got to stay in here with us now because we have as much difficult spelling these new things as you do, and notwithstanding trying to figure out how to get our stuff through customs. But,

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you know, no one told us that the seventh year was going to be an easy one for us.

We got a program, we got it up and running, we have to figure out a way to get it done, and we will. But, you know, this is the menu. Tripoli was on the other side of the ledger two years ago, now we have to start thinking about that. And I could have added Juba and, you know, in the Darfur area and all of that to this list, but that's what it looks like.

So what's new then today that you didn't know last time, full implementation of the Williams 20, I'm summarizing now.

We've defined and put clarity around the risk allocation for our major projects. We have moved our organization ahead and our thinking and our focus into a complete lean management mentality.

We are moving to fully implement the use of BIM, Building Information Modeling, and I know this will make a lot of folks in the room here happy. And we're revising and refining and

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cutting some of the stuff out of the RIP that creates confusion. And we'll be putting in a new version of this in a few -- in a month or so. We have another initiative ongoing here that's sort of a housekeeping thing, but to allow us to do our job a little bit better, it's a building management integrated system called BIMAS, that's going to be rolled out in its implementable fashion in about seven or eight months.

We are going to pay a lot of attention this year to the ADA compliance. In fact, we're going to figure out a way to have a program that captures the ADA, because in our thrust to get the engine and the big operation out, we didn't put as much attention on this matter that we should.

We're also going to attempt to get our entire SAD compound lead certified rather than just a building or two. The whole complex that I talked about, we'll be looking at that. Now, these are big issues that we have as we move forward.

Okay. Are there any questions on the

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update this morning or the direction that we are headed? Okay. Thank you for your attention, and now it's work time. We will transition. I have introduced the panel, we'll transition right into the work for this morning. And the agenda will follow the pattern that's listed. We have some topics for discussion this morning.

We have Champions that have been assigned, and the first one is consideration. We feel that consideration today must be given to how the O&M, the Operation and Maintenance is planned and phased into our projects. And with that, we wanted to have a discussion about it, and we've asked John Fenner from our office and Doctor Ellis and Ed Denton to chime in and help out with this.

So are we ready? John.

MR. FENNER: Can we have the blue slide presentation, please? Alex Willman has been one of our main leads on this project and I will let him introduce this slide presentation.

MR. WILLMAN: Thank you, John. Good morning. As was mentioned, we want to look at the

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ways in which there has to be a lot more emphasis on the practical aspects of how do we look at operations made in the planning of our projects. So this presentation this morning will look at several elements, first of all, that there are common challenges based by both OBO and major state universities, some information about what OBO is currently doing and planning to do for the future, and then what the state universities have done, and then it will have some case studies themselves.

The next slide, please. Even though they seem different from the pictures you've just seen of the numerous NEC's and other projects throughout the world, they really are some points of commonality with state university in the fact that they are major owner occupied and long term held asset managers.

So they also have to deal with several of the items here, which are not too surprising, but I'd just like to make sure that we recognize that as customers become more demanding, the

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nature of the design and also the construction, and more importantly, the operation and maintenance has to follow that, as well. High energy costs, you probably have seen the recent Wall Street Journal article about the doubling of oil prices in the past three years. It cited the impact upon Guinea, where we have a new Embassy in Conakry.

Construction costs, obviously this is something that everyone is aware of as the demand from several parts of the world, drives up basic costs. Tight O&M appropriations are certainly an impact on the ability for planners to look at the ways in which O&M can be optimized when state appropriators go back and try to use old levels of dollars per square foot from when the building was initially built. We can't do that for the new

generation of buildings that are being designed and built today.

Obviously, with the demand for increasing IT infrastructure, new buildings today are much more complex than they were particularly

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in the state university arena. Nano- technology and bio-technology are major drivers for the types of research that needs to be done.

Fortunately, OBO doesn't have to have that on its shoulders yet, but certainly there are more complex buildings now being designed and constructed in parts of the world that have never seen a direct digital control or other things that are standard building practices here in the United States. And finally, there is the competition for the overall dollars. It's always more attractive to put up a new construction project as opposed to having to maintain that project for the next 50 or 60 years, but that really is where the long term dollars have to be spent from the owner's perspective.

GENERAL WILLIAMS: Are there any challenges to any of the bullets we have up there; would you like to add something to it, would you like to discuss any? I want to make certain that everyone is comfortable. Anything?

MR. PAPADOPOLOUS: It appears to me

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there is a key word missing in this entire thing, and that is a life cycle approach to the project.

GENERAL WILLIAMS: Uh-huh.

MR. PAPADOPOLOUS: This is excellent and challenges, but actually it's all wrapping around the concept of life cycle pricing on a project, and we would like to see that there.

GENERAL WILLIAMS: Okay, good point. Are there other comments? Yes, ma'am.

SPEAKER: Environmental impact over time combines with total ownership costs.

GENERAL WILLIAMS: Excellent.

MR. DENTON: Yes, I just want to kind of respond slightly to the life cycle issue, because

it is extremely important. But what's interesting about this is, O&M money and capital money are different colors, and so it's a significant challenge to bring in life cycle to the capital side, because generally what you're doing is just saying I need more money up front to save me O&M down the road, and because they're different colors, it could be more difficult to get the

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capital money up front, and so it's a constant challenge, not that you don't do it or don't try to do it, but it's interesting, the road blocks the people who own capital try to put up when you're saying it's going to save me O&M down the road, because usually they're different people and different money.

GENERAL WILLIAMS: And you just made the case, you just helped me make the case. We're going through a little exercise right now in the Department where we are trying to put those in the same pot, and quite frankly, align those under the same leadership, and this way, this will eliminate that fight, because then if the responsible and the accountable entity or element has responsibility for both, you will balance that in a very professional way and get after what S.G. is talking about, the life cycle, in a much more cohesive way.

MR. DENTON: I will add that we've done the same thing and I do have that responsibility. And it has changed the culture somewhat, but it

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doesn't necessarily mean the battle is going to go away.

GENERAL WILLIAMS: No, it doesn't. It helps it.

MR. DENTON: Yes.

GENERAL WILLIAMS: Because right now, they're in two different worlds. Okay. Are there other comments about this? Okay, please.

MR. WILLMAN: This reviews some of the activities that OBO is now doing and has done for the past few years, so that everyone will

understand that we are having a number of activities to look at the O&M issues in the design phase.

First of all, maintainability reviews are distinct from just a review of plans coming back. They are looking specifically at issues in maintaining the equipment that has been designed for operator ease of making sure that the preventative maintenance is done correctly using the project as a proactive tool so that when comments are put in, that they electronically go

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to all members of the design team, including those in the facility management arena, so that when concerns come up, they can be addressed and those comments can then be retained after the project is completed.

Participation in value engineering reviews, I think this has already been extensively discussed here, and we've seen, obviously, the significant return on investment in the value engineering process at OBO.

Maintenance staffing studies are conducted one to two years prior to the actual completion of a new embassy compound, whereby staff who have experience in facility management go out to the post, they assess the capabilities and the opportunities at that existing maintenance organization to find out whether they have the necessary technical skills and background to move from what is many times a Volkswagen into a Mercedes, and so this is a challenge which in some cases can be met, in other cases we identify exactly what are the skills and technical needs

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that the post has to handle and suggest that they go out to technical schools or to other arenas to locate the electricians, HVAC technicians and others, who will be absolutely vital to making sure that that new asset is properly maintained.

We also provide training to our facility managers on an O&M checklist that General Williams has provided and uses every time he goes out for

ribbon cutting, so that our facility managers know exactly what are the key elements in division one requirements that they should be receiving from the general contractor as elements that are going to be critical in adhering to the warranty and subsequent proper maintenance.

We have monthly meetings between the commission and construction division and our facility management group to look over best industry practices and to help smooth the building turnover process. And, again, we also are making sure that the first year of warranty, when the warranty is in effect, that we're looking at those types of specially diagnostic equipment and other

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tools that are necessary so that the technicians can fully understand how to use that for proper maintenance during the warranty period.

GENERAL WILLIAMS: In much the same way, do you see anything on this list of thoughts and initiatives that we have put in place that shouldn't be there or is there something that you would like to add?

MR. DENTON: If I may?

GENERAL WILLIAMS: Yes.

MR. DENTON: You know, the O&M piece has really got two functions in planning a facility; one, of course, is at the very (off mike) when the drawings are being prepared and what not, you want them looking over the shoulder and making sure that assistant proposed and locations and what not are lined with what they think makes for good engineering sense on the operation side.

But probably more importantly, and I'm not sure it's here, is the O&M people actually need to visit the site once in a while while it's under construction. You know, it's one thing to

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put a shut-off valve in, it's another to put it in the right place with an access panel underneath it so they can get to it.

And the dilemma sometimes occurs when the value ends up in an architectural ceiling, and

the designers say, gee, that's not where we want an access panel. Well, the problem is, the shut-off value is in the wrong place, because you must have an access panel. You can't compromise for the O&M folks, the ability to get in and turn something off when it must be turned off immediately, and that's a constant sometimes source of tension, if you will. The contractors start putting in pipes and conduit, and there's shut-off value in a conduit, or there is a value in the duct work and what not, and sometimes it gets so crowded over the ceiling that you may need multiple access panels, and all of a sudden someone says, you know what, I don't want to do this because it's expensive. Well, you need the O&M person out there to kind of remind them and be their conscience, if you will, while it's under

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construction.

GENERAL WILLIAMS: Excellent point. Yes, ma'am.

SPEAKER: Following on again to this gentleman, understanding the operational impact to mission on the systems and on deferred maintenance, time, understanding that operational criticality is the argument for putting the valve where it can be found easily, and so that tie-in is an important thing, both in planning and in operations and maintenance.

GENERAL WILLIAMS: Do you see any relationship to BIM, advantage of -- go ahead.

MR. BAROTTI: I was just going to say, sir, the implementation that you're starting to do with BIM we're using on other projects. And this exact coordination that Ed is talking about were the access panel and the valves, and then tied into the commissioning plan, the O&M starts with your commissioning plan, and making sure that the commissioning plan has things like bar coding, so that your facilities managers can go around with a

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bar code reader and know that they're at this location and be able to read -- and note all the

different value locations and things of that nature is very helpful. So those are things you need to make sure are in there from -- as part of your standard. But BIM is going to be a very big help with regard to this -- with this one problem.

GENERAL WILLIAMS: Good, okay. Let's move ahead now to the next one.

MR. WILLMAN: So again, looking at some of the common themes that I learned in my discussions with both Doctor Ellis and Ed Denton, the first one really is -- seems straight forward, but it's hard to get across to some people who only look at the numbers and nothing else.

The fact that there is no way to only say, yes, this building is a $5 square foot building and this building is a $10 square foot building for maintenance. You have to look beyond that simplistic approach. You have to look at where that building is, what are the systems that are going to be operated in that building, and

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then you have to explain that this is what is really necessary for that building to sustain itself over its life cycle.

The second bullet really is what, again, Denton mentioned, that they have -- they've discovered that setting aside a specific time for the O&M staff to go through the buildings and look at particularly the distribution systems that will be covered up by concrete, drywall and other building systems is a major improvement in getting the operators to buy in, to understand exactly where the systems are going to be when they take it over, because they know they're going to be taking it over, and they have to be part of that process during construction to be there to see where the piping and other equipment is being installed.

The third item really is making sure that information via a useful and quickly accessible facilities oriented web site is up and running, that is regularly updates with new standards, new requirements, so that both the

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contractors and the O&M staff can go in and learn what changes come about because of either new regulations or just improvements in policies and procedures.

Certainly, the ability of the O&M staff then to address concerns of the customers is an element that any owner has to deal with. The University of Florida has done an excellent job and have gotten cudos from the APPA for their customer focused training that they provided to their O&M staff. So it's not just sending out Charlie with a wrench, but it's making sure that Charlie asked, did I solve the problem.

And then finally, they both mention that having the commissioning authority report directly to the owner is a way to make sure that there are fewer warranty claims, and I was told that the mechanical contractors are saying this now, 75 percent fewer call-backs when commissioning is done properly with the, again, the owner being in charge of the commissioning authority.

GENERAL WILLIAMS: Okay. Are there any

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additions to the thoughts we have here or do you want to argue with some of those as we move forward? Okay. Roll to the next one.

MR. WILLMAN: Again, Ed, please chime in on this, as well. Really, there are several key things I learned with talking with Ed and Chris Lee (?) Director of Physical Plant. First of all, they do involve their senior staff at all phases of design reviews.

And most importantly is in their office, they have a single point of contact; one person collects all these comments, goes through them, makes sure they are really relevant to that particular design, and that they are addressing what should be a valid concern, and then passing that on.

So there is perhaps a filtering agent, but someone who does this in a consistent manner so that there's a clear point of communication

between the physical plant personnel and the design team.

Condition assessments are actually done by their existing staff, and they found this to be very useful in looking at ways in which they can -- from their overall deferred maintenance, which is around $500 million, their condition assessment team then looked at that and identified that 72 percent of that figure was truly critical, but of that 72 percent, a much smaller amount, around $50 million, was things that had to be done on a 12 to 18 month cycle. So going from a very large number, they used their condition assessment experienced staff to be able to really look at those items that have to be looked at for immediate improvement in the O&M arena.

Consolidated agreements are a way to look at going out to manufacturers who are going to be providing products over a number of years and being able to basically drive a better bargain with them since they know that the major owners such as the University of California is going to be purchasing their products, going out and identifying ways of getting longer warranty periods and other things that should be part of the owner's perspective if you're going to be paying for the product and retaining them for a number of years.

The next item is making sure that the customers fully know, and again, it goes back to managing expectations, what exactly they are going to receive in terms of service for the O&M costs that are tacked onto their budget.

Basically, if they want to have the windows washed and they want to have the floors waxed and they want to have all the brass polished, that can be done, but that is outside of the basic package. So it's making sure that the customer knows this is what we give you, if you want more, that's going to be at your -- that's an add on. And then finally, evaluations of the

staff include what feedback is received from the customer service arena.

So the staff fully understands that they have to be participatory in good customer relations and that they will, in fact, be -- this is part of their evaluation when they're looked at

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at the end of the year.

GENERAL WILLIAMS: Once again, some thoughts that the Champions have laid out for us. Do you see anything on the list that bother you or you would like to add, modify, or discuss further? What about this idea, we don't do windows? You know, that's just an example, but in the business that we are in, obviously with the heavy dose of diplomatic flavor and door knobs and shiny floors and all of this, you know, it's a lot of that, and so I'm just wondering whether we can expand a discussion about that. Yes, ma'am.

SPEAKER: I had a similar thought about that, because if you look at the, again, function and mission to the building as an enabler of the mission, that kind of appearance quality kinds of things should be understood at the planning and beginning of the facility when you tie O&M in, so that you have that understanding, total ownership cost.

You may not, in one part, need to have the shiny brass, but in another part of the

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building, it's absolutely critical to maintain the image and the appropriateness of the building to the mission.

GENERAL WILLIAMS: Clarity about the scope of what, yeah. Yes, John.

MR. PAWULAK: Not about doing windows, sir, but in a recent experience in starting up a high performance building for Howard Hughes Medical Institute, we got involved early in the commissioning process. There was a period of time during this process that the mechanical electrical contractors started up the equipment and it operated in order to maintain environment within

the facility.
Now, normally, between the start-up and the hand-off to the customer, there's a period of time there that these systems are operating normally to maintain the environment of the facility, but they're not being maintained, they're being operated by the mechanical electrical contractors.
So what we did, they contracted with us

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to do preventative maintenance, to maintain warranties in that period of time. It got the O&M guys involved a lot earlier in that process.
And as an end result, the systems weren't being run improperly in a construction environment during that period of time, and it helped to orient, train, and ensure that the systems were being operated properly in accordance with the warranty, and that the proper preventative maintenance was being performed on it. It might be something you could consider.
GENERAL WILLIAMS: Excellent comment. Yes, Ed.
MR. DENTON: I thought I might just add a little context to the we don't do windows concept, because in the years '03 and '04, the state of California experienced significant budget cuts, and the impact on my physical plant staff was a 15 percent reduction in our budget, which translated to approximately 75 FTE's. And out of that came an effort to prioritize what we do and what we need to do and what we can't do any

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longer.
As much as my customers sometimes don't want to accept we can't do everything they expect, the reality was, we just no longer had the resources. So what can we do about it? Some of the things we do, like you talk about waxing floors, we share the cost now, we don't do them on a regular basis like we used to, but we negotiate and share some with our building occupants, and actually it's worked out very well.

Windows, unfortunately, you know, it's the squeaky wheel may get windows done, but the reality of it is, I no longer have resources to do that, I don't have the painters I used to have, we don't have the custodial staff we used to have, we don't have grounds keepers we used to have.

Yet the appearance of the building and the appearance of the grounds is very significant as the first moment of truth for anyone coming to campus, and whether it be a prospective professor or a prospective student, so it's a real balancing act.

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And I wish there was a silver bullet, and the reality of it is, there isn't, and that's extremely unfortunate. But the key here is, let your customers really understand the new constraints that you're faced, and work with them in how you can get around those constraints and what not.

I don't carry the amount of parts I used to carry, but we're willing to pay for overnight express if it's something that really matters and really makes a difference, if I no longer stock it. So there's a lot behind this that impact your ability to succeed, and you've now got to figure out different ways to respond to the needs of your customers, and if anything, that's kind of the message I'd like to leave.

GENERAL WILLIAMS: Excellent. Yes, Ralph.

DOCTOR ELLIS: I'd just like to comment on the first point up there, which I think is a significant issue. At the University of Florida, we assign an O&M project manager to each project,

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and it's more than just a contact point, I think it's an accountability issue.

It's a much better management process to have a representative or a project manager attached and accountable for a project with regard to the O&M issues than it is to have a project just be moved through the O&M organization for

review. And that's, you know, that's a process point, but I think it makes a big difference. We have project managers on the planning and design side, we have project managers on the execution side, I think you need to take the same approach with the O&M side.

GENERAL WILLIAMS: Excellent. Okay. Let's move on to the -- good comments. Let's move on to the next one.

MR. WILLMAN: Following up again, at the University of Florida, I met with, or Doctor Ellis introduced me to the personnel in planning, design and construction, as well as their physical plant personnel, and I appreciate that very much.

Again, just to hit on the importance of

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having a web site that really is so well tuned to the needs of the O&M staff, I've looked at their web site and very much impressed, particularly all the pictures of alligators on it, but other than that, it's really got good links to other key documents so that people can drill down for further technical information.

Again, commissioning is also standard for all of their building systems, so it's not just for the mechanical electrical, but also for the envelope, which again is a very high concern in an environment like Gainesville, Florida.

They have a date that's identified for the O&M staff to go through with the construction manager to look at key elements during construction so that all of this information is retained by the O&M staff, who will then be responsible for maintaining these properties. They have a substantial completion checklist of 25 items, standardized with milestones, so that everyone knows, and again, this is something that they can download from the web site, so the

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contractors are aware of this, as well as the O&M staff. So, again, it's making sure, just as you found, General Williams, with the checklist that you have for your building turnover, people are

prepared for this when that point comes in construction.

And finally, in their energy modeling and the design phase, they allow for what if's, so they can look at different types of glazing, of different types of envelopes, so that they can see what impact it has particularly on the size of their air conditioning systems.

GENERAL WILLIAMS: What all of this meant to us was that we saw that there was a big void in giving full consideration to the whole question of O&M, and that's the reason it's a part of the Williams 20, because we recognize that in order to come a little bit closer to the ideal state of what we're trying to do here, we really had to stop, pause, and take a look at this, and that's the whole purpose of this exercise. And I think that -- well, first, before I do this, are

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there any comments about this latter part or any of the phases that we have talked about today further on the O&M side? Yes, ma'am.

SPEAKER: Is the web site basically a portal for information or is it incorporating enterprise work flows?

GENERAL WILLIAMS: Alex.

MR. WILLMAN: I think it more is a portal, you know.

GENERAL WILLIAMS: Yes.

SPEAKER: The idea of the substantial completion checklist is extremely important, so it should developed throughout the entire contract from when the project begins and added on, maybe (off mike) list and go forward. Because these things come up very early in the process (off mike) and as an architect, when you're going through the substantial completion, we look to the owner to help us, we look to the owner, but (off mike) but we do need input from everyone on the team, so it should be started very early on.

GENERAL WILLIAMS: Okay. Are there any

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other comments? Yes, John.

MR. PAWULAK: Sir, operating and maintaining embassies in foreign countries presents some significant challenges. One of the things that should be considered in the early planning stages is the outsourcing of the operations and maintenance, and also the indigenous labor and how they're going to be participating and what the restrictions are for their participation in the operations and maintenance of the facilities.

GENERAL WILLIAMS: You know, the whole issue of outsourcing, I appreciate John bringing this up because for our business, and obviously, you know, we're all over the world, basically 260 locations around the world, plus, we can't have one shoe fits all. I mean there's just really no way to deal with that. But what we want to come up with is some basic fundamental traction point to build the program on, and that's why I like the notion of the discussion around some of the things that we must have. I think, yes, we must have a

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checklist. That checklist needs to be tempered for West Africa, because it won't even work in East Africa. So we just have to recognize that. We can't write one back here in OBO and say that it's going to go apply it in Astana in Kazakhstan. So we'll have to be flexible this way.

The idea of outsourcing, you know, it's a touchy one, because we're a government organization, but I can appreciate, and your comment is really helpful, because as we look at this O&M business, that just got to get on the table. And it'll be a little (off mike) moving, but you know, we just got to get on with it. And so we need these comments to help us as we launch into this, because fixing the O&M side of the house, as Ed has pointed out and some of you know, is a big piece of work. I've been there in a previous life and I know what we're undertaking. It's really not just words. If you tackle this and tackle it the way we want to try to do this, then it takes a lot of consideration. Are we okay

with where we are now with all, did you have
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anything further?
MR. WILLMAN: I think Doctor Ellis has an example of what John was talking about.
GENERAL WILLIAMS: Okay, by all means. Go to it, Ralph.
DR. ELLIS: Just a couple slides. I think it's really interesting, for me anyway, to recognize the similarity between the way we operate our facility implementation at the University of Florida and the way the State Department does it. We have planning and design functions, we have execution, we have O&M organization, as well, and frankly, we deal mostly with the same kind of challenges.
Our buildings cost more, they cost more to maintain, the technology involved in the facilities is more complex, we have more different building systems that we have to take care of, and very complex and technically sophisticated systems. And I think the last point is probably one of the biggest challenges, and that is that the technology is rapidly evolving, it is truly a
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moving target.
So from a management perspective, there are a great deal of challenges, and I thought it might be useful just to point out a couple of the things that I note that we're doing at the University of Florida.
If we could have the next slide. Number one, we have invested the time in developing a design and construction standards for our facilities, and this is an activity that's done jointly by our O&M organization and our design and planning organization. And the advantage of doing that is that, although it takes time, you have to invest in that. The advantages that we -- it minimizes the battles that we have to fight on every single project about standards. And so this is, in my mind, it's more of a list of preferences as opposed to just referencing a building code as

a minimum standard. I think this kind of an investment in time makes us more efficient and allows us to work smarter.

We use commissioning agents, as Alex has noted, routinely on our projects. We find that it is worth the investment. We are being more aggressive, I guess, about managing collection of our as-built data information on projects. We get as-built information in early in the projects, we don't wait until the end, we have a phase submission requirement for as-built information. It's also tied to contractor payments.

We use asset management tools to be more efficient in the way we manage the facilities. We have to engage in more specialized training of our O&M personnel. The skills that our maintenance people had last year may not be the skills that they need this year. And so we need to more frequently review the skill set that is necessary based upon the systems and the facilities we have in service and compare that to the skills we have with our maintenance personnel.

And the last one is a point that was previously mentioned, but we are in some cases moving to outsourcing of specialized maintenance. And I'll just stop for a second and see if there's a comment.

GENERAL WILLIAMS: Yeah, what would be in the category with specialized maintenance, Ralph, from the UF point of view?

DOCTOR ELLIS: We have -- and I'm not an expert in this, but I can give you a little bit of what I know about it, General. A lot of it is in the medical technology area. We have some systems that are very specialized, and we will make the call that is beyond the practicality to get our people up to speed on it, so we may use outsource of maintenance on that.

GENERAL WILLIAMS: Yes, Ed.

MR. DENTON: I can give you some other examples, as well.

GENERAL WILLIAMS: Yes.
MR. DENTON: One of the things we do is, we outsource some of our preventative maintenance programs. For example, the chillers, it makes a lot of sense to find someone on the outside who has all the technical expertise you need rather than keep it in house, because it's very

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expensive, and so they come in under a contract and do the PM, and so that's a really kind of good example I think that might make sense.
GENERAL WILLIAMS: Yes.
DOCTOR ELLIS: We do that with chillers, as well.
GENERAL WILLIAMS: Yeah, that's excellent. At some point, we might want to dialogue further on that. Yes; I know you have more.
DOCTOR ELLIS: Okay. Can we have the next slide? Okay. And I just wanted to show a particular project that is unique for us, and I was struck by its similarity to what you folks do. This is a relatively sophisticated facility, it's a proton therapy facility, it has a cyclotron in it. It is about a $90 million facility. It is located 75 miles from where we are, from our campus, so it is satellite or remote.
And if we go to the next slide. Our solution for dealing with the O&M issues on this particular facility has been to have on sight a

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resident facility manager, as much as you folks do, but we found it more practical for this facility to outsource all of the O&M maintenance on the facility.
So we have what we think is a very qualified facility manager, and all of the standard O&M activities that we would do if it was located at our campus has been outsourced. The building has been in service for about a year now, and our staff at the University of Florida tell me that it's working very well and they like that arrangement.

So my point is that where you have -- in a location that you have qualified O&M services available at competitive prices, it might make sense to look at using that resource as opposed to trying to replicate it, that's my point, General.

GENERAL WILLIAMS: Excellent. Are there other comments on this? Do you have other slides, Ralph?

DOCTOR ELLIS: That's it.

GENERAL WILLIAMS: Okay. Yes, any other

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comments?

MR. CASTRO: General, I have a question from the first bullet on the previous slide about this six month refresh on your construction standards. Jay's folks have done some good work at looking at -- making sure that the standard embassy design incorporates latest best thinking, but without ruining the discipline of the, you know, so that we are -- you're not constantly tweaking things and you do have a standard, but that you're also incorporating that.

I'm just curious if you can enlighten us a little bit as to why six months is the standard at Florida. Obviously, we have longer lead in our procurement and planning and budgeting and going through the hill, so we're trying to find where that ideal balance is. Do you know how Florida arrived at that as being the standard?

DOCTOR ELLIS: Bob, the call on that I think is based on their sense of the rapid evolution of technology in different systems. Now, they don't necessarily change everything

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every six months, but they feel it's necessary to get together and review the state of the art and compare it to what our standards are, because the products are changing, and that's -- I think it's a good policy. I think, you know, everybody is busy with their jobs, but you need to schedule these kinds of things or they don't get done.

MR. CASTRO: Thank you.

GENERAL WILLIAMS: Yes, Ed.

MR. DENTON: I'll make this brief. I don't do nearly as well at Berkeley because I don't have a dedicated staff to maintain my standards, so it's a constant battle to get people to devote time to take a look at our standards. But I can say, in my previous life, which is at Kaiser Permanente for 15 years, which is a large health maintenance organization that owns all our facilities, I literally had a dedicated staff that maintained our standards.

And we didn't have a cycle with which we would issue new standards, but we knew those because they were involved in projects and what

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not and reviewing all our projects, we knew where there were changes taking places, and so we'd be able to target those standards that were impacted by what we saw in the industry. Some standards might stay that way for a long time and others might change on a more frequent basis, so there wasn't any set answer.

MR. CASTRO: But you did develop a methodology for capturing those lessons learned and putting them back into the fabric, as you like to say, General, of the organization and the execution of future projects?

MR. DENTON: Yes; and so what happened to us is the most important thing on the standards, is the date, because that's tied into when the architect starts design, and you know, we can't --

MR. CASTRO: Is that a born on date or a used by date?

MR. DENTON: Good point.

GENERAL WILLIAMS: Well, you know, I think, Ed, your example from the medical world is

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helpful to us because, you know, we are building a specialized office building, complex, that has a lot of kinship to everything else that we are building around, so that's the reason we went to the standard design, because we, other than adding the unique features of a particular region, for

all practical purposes, the building is the building. So we ought to be able to come a little bit close to standardization from the standpoint of how to maintain a particular something.

So this is very helpful as we move forward. Obviously, I'm just going to do a little -- it's always an opportunity to test and see where we are. How many people here today who's visiting that has some interest in the O&M business?

Okay, good. Well, we all need the crust of this business now and we're going to try the O&M new look on the largest and most difficult project we have, and that's Baghdad. Does that change your interest? And so we're going to see what's going to happen there. We're going to do

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the whole package. And we're going to use this because we've been doing a lot of innovation there and testing some things.

So we're going to take the entire O&M package and try it in an outsourced mode and see how this works. And I want all these people that's raised their hands to be slowing down to my office to say you're going to help me, because it's coming, in months. So I'm delighted to see the interest, but we'll take a look at this and see what we learn and see how we work through this. And, obviously, this will be something that we'll be talking to our stakeholders about. But we've already had some preliminary discussions about the availability of in-house grown O&M support. And that's getting to be more difficult, for obvious reasons, because we're in different parts of the world. Okay. This was a good discussion, exactly what we wanted to -- yeah, Joe.

MR. TOUSSAINT: Okay. General, if I could, just coming from where I sit, the execution

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side, and hearing the discussion about standards updates, and picking up on what Bob's question was, the obvious thing is, when you do these

updates, the standards every six months, you live with, in fact, the -- what's left the station already in terms of a contract that's underway; is that correct?

DOCTOR ELLIS: Yes, sir, that's correct.

MR. TOUSSAINT: Okay.

DOCTOR ELLIS: Once we've designed it, we've designed it.

MR. TOUSSAINT: Right; and so the walk-throughs during construction and the training and so forth, you may find that there's a downstream issue that you're going to have to address if you want to improve the performance of the facility, but it wouldn't be necessarily on this train ride, it would be the next --

DOCTOR ELLIS: Well, these are the kinds of issues that you folks deal with every day.

MR. TOUSSAINT: Yeah.

DOCTOR ELLIS: I mean you make a

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business decision about whether it's worth while to make that change or not make that change, depending on the issue. But having identified the issue is the first step.

MR. TOUSSAINT: So that's the discipline of it?

DOCTOR ELLIS: Yes.

MR. TOUSSAINT: Thank you.

GENERAL WILLIAMS: Any other discussions on this? Yes, ma'am.

SPEAKER: You have a thin model on (off mike) begins with support this O&M process.

GENERAL WILLIAMS: Come and talk with us, okay. Okay. Let's move now to the next category, it's on smart, energy efficient and sustainable buildings. And we've had a lot of discussion around this going forward, but now is the time to really put it on the table. And, of course, our panel member is John Pawulak and Matt Wallace, and George Glavis and Bill Miner I think are going to tee it up from our side. Okay.

MR. MINER: I'm going to first introduce

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us, General, by stating the element. The topic was to increase the emphasis on smart, energy efficient and sustainable buildings going forward. And I believe the most important first step with this is to have it as a part of the executive agenda. So having it as part of the Williams 20 is a very good first step. It sends the right message to industry, and it certainly sends a strong message to staff. It has forced us to rethink how we have approached the energy issue, the sustainability issue, and to regroup ourselves into a green team that we'll tell you a little bit more about as we go forward.

We have industry members, John Pawulak, who's representing the Association of Energy Engineers, Matt Wallace, who's with the Society of American Military Engineers, and we've had some informal discussions and a lot of exchange of data, and those gentlemen will chime in after George Glavis has the opportunity to provide an overview.

One of the changes internally has been

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to try to establish a strong partnership between the mechanical engineering branch, which historically has managed our energy investment conversation program. This is a line item in our budget that allows us to make energy modifications and improvements in our buildings and to demonstrate pay-back return on investment.

A more grass roots effort in our architectural branch led by Donna McEntire, who's back here, has been to work with the U.S. Green Building Council and to try to get lead sustainable features in our building and to integrate that into our work. And getting those two offices together as a green team has been my challenge. I will say just generally, in meetings that we've had just recently with the U.S. Green Building Council, we have had an impact on their thinking. We have, as you've seen, a volume built program, a very repetitive standard embassy design strategy, and part of that strategy has been to

leverage a standard design by integrating, embedding into that good energy components so that there is a ripple effect on all the buildings that we've built.

And we went to USGBC over two years ago and submitted the standard design and said can you please certify this, and at that time we were seeking the bronze level, and that didn't really -- that wasn't something they had thought about. They like to certify buildings one by one, and we were asking them to certify 50 buildings at one time. Also, their methodology was focused on individual buildings, and we are building compounds of buildings, like in the university setting, and the lead scoring system doesn't really address that yet. They have shown us, when we met last week, new thinking, new ways to build that they're looking at, compounds and looking at the scoring, and we'll address that I think in the coming year.

I'm going to ask George to go through the slides and to talk more about what accomplishments we would like to point to and ask the fundamental question of the board members.

MR. GLAVIS: Thanks, Bill. General, it's a pleasure to be here, a pleasure to be working with the industry, and my thanks to John and Matt for helping us put this together. We see on this current slide here, we have about five slides from our side here, and then Matt and John can add their input or certainly interject as we go.

The problem, of course, is the utility costs are increasing, it's inevitable that we have to look at this issue as carbon emissions, controls take place, global warming is becoming more of a concern, ozone depletion, call it what you will, it's causing us to look real hard at energy conservation and the overrocking issues that we're dealing with on our mechanical and electrical systems primarily, because those are

big energy hogs.

Some of our equipment, of course, was old fashioned, if you will. The industry tends to be a very steady state. It took a long time just to get energy efficient ratings cranked up, and an

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awful lot of inertia there. DOE has recently instituted more higher ratings, it took a long time to get there.

But more important, we have a challenge in our organization to put these installations together using new technology, higher efficiency, but more reliable and maintainability issues so that things that we've been realizing have to be much more in our focus as we design these new buildings.

So the real question is, what other opportunities should we consider as we try to enhance our energy performance, and quite frankly, we look all over the R&D community, we look at applied technology, but as General Williams pointed out, risk management is what we have to deal with, we can't get too far ahead, certainly not in a competitive environment, but at the same time, we can't be resting on our laurels waiting for something to be tried and true for ten years, because by that time, it's not energy efficient either.

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So we're really caught between the risk of trying new technology, which we are very adapt at, thanks to General Williams helping us in that arena, and we'll show a few of these examples as we go.

On the next slide, as Bill said, we're trying to blend energy and sustainable design together. As we talk about projects that increase energy security, I'd like to highlight that as a buzz word in the energy world. We had the privilege of attending the Platts Global Energy Awards Conference, we were finalists in some of those awards, energy security --

GENERAL WILLIAMS: Go back.

MR. GLAVIS: Yes, sir.
GENERAL WILLIAMS: I'm talking to him about the slide, yes.
MR. GLAVIS: I'm sorry. On slide two.
GENERAL WILLIAMS: Yeah.
MR. GLAVIS: We need you to just go back one slide. As we're talking about energy security, the energy industry of, shall we say

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generation and transmission, Department of Energy and its umbrella oversight, looks at energy security as sustained power supplies without disruptions. Obviously, in our world, we're very susceptible to natural disasters and man made disasters, terrorism. So energy security is a very important part of our program. It's a buzz word, but I wanted to highlight it. It's not our buzz word, it's the industry's buzz word.
So in all of this work, we have to use a set of standards, we use the Ashray standards, we use the Department of Energy standards for life cycle analysis in order to utilize the funds that congress very nicely gives us, provided we can make the payback in a certain period.
So paybacks in our world are ten years or less, if it's higher than that, we have to look at it as innovative technology, where we feel the costs are going to come down during those ten years, such as photovoltaics as we'll come up to.
Sustainability, in this case it's tied together with the energy directly, because indoor

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quality are the issues, mold issues, design issues. We have to look at safe, healthy, and functional facilities. Bill pointed out the LEED Program, LEED gives us targets, but doesn't really measure the performance, and I want to go into that as the last slide.
On the next one, now we're talking about the different types of energy conversation initiatives. We didn't cover all the history here. One of the first things we did was get up to the (off mike) or the challenge of eliminating

the refrigerants that were no longer environmentally acceptable. So in the sustainable design world, we started way back when we eliminated CFC's and went directly to HFC's. We skipped an intermediate step, HCFC's (?) which a lot of industry went to and they're struggling with that now because that has phase out issues also.

On the left hand side, we have something called the mag lev chiller, which is, again, very new, but we had to watch very carefully whether

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that would survive the test of time. We knew it was a tremendous asset as far as reducing energy consumption.

So we went to, guess what, the financial industry, the leaders, the Federal Reserve Bank, we looked at them as a prototype and saw what they could do with their installation to support their IT infrastructure, and when we found out it was working correctly, we took the next step, and it's now being installed in Tokyo, and the next project underway now is in Geneva, as well.

So I think that this is a tremendous step in the right direction, long overdue, to reduce the energy. We don't need to supply oil, we don't have the throw away problems, and we certainly reduce the carbon emissions. In the solar world, there's several examples. Bottom left hand side only shows one where we take advantage of the natural light to heat the water. We're also doing heat recovery. The unit above that, where we talked about a chiller, requires a compressor. Compressor raises the temperature of

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the gases. We have to use a fan or a cooling tire to get rid of it. And so instead of getting rid of it, we're actually reusing some of that waste heat rather than throwing it away. This is a total systems approach, where, again, we're kind of in the lead, but not too far out.

On the right hand side, I mentioned something about the solar PV program, it's

wonderful that ten days ago the Wall Street Journal gave a front page story on photovoltaics. They described one of two versions. NASA actually started the whole work with silicone crystals with plate glass on top of it, which is what we're using on the right hand side, showing the new facade in Geneva.

The other is an amorphous technology, which we've been following very closely, hoping the cost would go down. Competition is -- the demand, shall we say, is keeping those costs up. But that was the featured article in Wall Street Journal for the amorphous type.

An advantage there is, you can use it

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for roofing; instead of putting shingles up, you put amorphous shingles on the roof and you use the natural day light when the sun is shining and reduce your energy dramatically in all of the buildings that we would have. It's a natural as opposed to the heavy plate glass that we have to deal with on the crystal type which NASA started out with. So that's around the corner, we're watching it. If it becomes cost effective, we want to use it. On the right hand bottom side, you'll see fiberoptics, again, you see them in your cars today, it's the sort of thing that was only on the back burner in the R&D world ten -- fifteen years ago, or in the EE world on indicators.

But in this particular case, if we could harness that energy, we're looking for ways to do it. In a very broad summary, we've been looking at it for a long time, DOD has been looking at it a long time in reflected, directed energy concepts, but we have a little ways to go. If we could use that for our ambient lighting, that

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would be a tremendous asset.

On the next one, we have a totally different approach with the green roofs. Germany has a requirement to use green roofs. We're actually using it in this particular project in

Athens, working very closely, I said R&D before, we're working with the universities wherever possible, too.

Georgetown has a unit that we're watching very closely. We're worried about such things as, what is the maintainability issues, the water problems, the roots getting into the roof and that sort of thing, so these are issues that we're just starting to look at in the total context of thinking out of the box, if you will. On the right hand side, I have a list of items; I would like to point out that the first thing we did was eliminate cooling towers. General Williams very nicely supported us out in Abu Dhabi. We were out there in a very arid world, why do we want to waste the precious water supplies. And so from there on out, we took a

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hard look at reducing the size of the chillers, reducing the requirement for water waste, and chemicals associated with it, and that's all tied to a sustainable design.

So we're eliminating all the chemicals and the water and, in essence, going to air cooled systems because of our requirements, and a much smaller size don't meet the same requirements as a very large installation, which perhaps would warrant a cooling tower.

We went to industry and said, okay, where's the breakoff points, where is it more cost effective from a life cycle approach, and we got the industry collectively, four different major firms, to agree that the cutoff is right about the largest unit that we would have, and that is about 250 to 300 tons.

And so that really supports what General Williams initiated, and I want to thank you, sir, for that initiative, because that was a risky one, it was something that we hadn't done before, and that was a tremendous step in the right direction

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as we see now. We had also the desire to recover water out of the air. We're dehumidifying all of

these buildings. There's a lot of places where we are around the equator, where it's humid all the time, it's natural to collect that water rather than throw it away. So we're collecting that water as we dehumidify the air that comes in to keep your rooms healthy for comfort, as well. The other issues that we, of course, go to the hands free laboratories and the dual flush and the waterless urinals, that is a new concept that we're endorsing as long as it survives the maintainability issues, and we're looking closely at that.

The day lighting, parameter lighting, automatic dimming, it's been around, we're looking at that, it's a natural if we look at that from a cost savings life cycle approach, we should do that. We're looking closely at reduced sight excavation, as well, for the mechanical systems.

We used to put the utility building at the end. General Williams said we'd buy ten acre

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sites. Utility buildings stuck way out in the corner. We're trying to pipe all of that water all the way over to the opposite side of the compound, run it all the time, and think of all the construction issues and the first cost issues of all that piping in the ground.

And we have some pretty sad chapter real life stories where the new construction was done properly, but things settled, and what happens if you have a leak in those massive pipes and it takes quite a horror story or several horror stories to get us to the point where maybe we shouldn't put them in a utility building far away, maybe we ought to look at reducing that infrastructure requirement and put them in buildings where they're needed and eliminate that life cycle wasted energy, as well, and the pumping costs. So we're looking at those kind of things, where you can put them on a roof, we want to do that; where it makes sense to have a basement, we want to look at that space, as well.

Reducing the resources wherever we can

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is a natural item. I mentioned global warming on CO2 emissions; the local materials are wonderful if we can get them, but unfortunately, some of the things that we're faced with overseas, you can't buy that stuff down the street, and so the maintainability issues come right into how much of that sort of thing can we get locally.

But it does point out that even though the architectural desires would be for us to have 30 different types of lights, I'm electrical, as well as mechanical, so I had to play that role very carefully. We don't want to have so many different types of lights that you can't get the infrastructure to keep running, because you can't buy those different specialty types of lights overseas, and so that's a real issue.

So in summary, on the last page, the challenges really are, in our opinion, where can we go for new technologies, can we use wind turbines, can we use fuel cells, photovoltaics, can we capitalize on that new idea, and quite frankly, we are balancing life cycle costs.

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Unfortunately, first costs seem to take precedence. I'm glad that was brought up about the life cycle cost, because a lot of times we'll design some new things and then value engineer them out. And then the maintenance folks have to pay for that elimination of pretty neat ideas. So that's a balance that we're struggling with. And General Williams, you're right on target, we've got to work closely with the O&M folks in order to make sure those don't get taken out.

In summary, on that bottom area, the challenges of metering and sub-metering were something that arose to the occasion, said we have to look at tracking where these things really are, because you used to put them in and forget them, and that won't fly anymore, not in today's environment.

And so we definitely had to realize that accountability can only be achieved if, and I like

the idea of General Williams telling us we've got to be accountable. The Energy Policy Act that just came out in 2005 revised the thinking,

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established a requirement for two to three percent per year reduction, but the important thing is, we've got to be able to measure it, and being accountable at the end of the day is not a problem if we're measuring it and properly providing the oversight, don't have any problem with that, but we've got to have that measurement, and so the tracking of the energy has to be something that we pay a lot more attention, and we're working with the O&M folks with that in mind, especially with the issue of, quite frankly, are we forcing anybody to pay more per square foot. So our base line is kilowatts per square foot, and even though the building may increase in size, because of requirements, the kilowatts per square feet have to come down, and the only way we can really do that is to track it properly, that's our challenge with IT folks, as well, getting that information back here, given at the post, and then getting the sale end information back to facilities for operation and maintenance, the feedback groups have to keep coming so that we can design our

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products properly, and critical infrastructure obviously has to be maintained so the budget process comes right into that.

And finally, I'd like to suggest that under the warranty period, even though we aren't thinking about warranties in way of energy, we should. We think of warranties in way of failing -- failed equipment. The mechanical information that was brought up with Alex was valuable, because commissioning is a part, but commissioning is just a snapshot. We need the one year warranty period to see if we're really meeting our energy target.

And I think that's part of this industry forum that I'd like to throw out as a challenge and see if perhaps industry can help us in that

arena so that as we go ahead and award these contracts, not only does the contractor have to make sure the equipment lasts for a year and makes sure it's good product as far as quality, but in our performance criteria, we're asking them to demonstrate a reduction in energy. The only way

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that can be really done is to ride through the four seasons tracking that energy and letting the contractor come back and do the modifications as necessary to make sure we're not giving the O&M folks something that is totally out of sight as far as maintenance. Thank you, sir.

GENERAL WILLIAMS: Thank you, George. Before we move to Partners, are there any questions or comments, further elaboration on George's presentation? What he put forth is what (off mike) today. And our emphasis here is a little narrower, and we deliberately made it this way because our work has to be around smart and efficient and sustainability rather than just sort of attacking a wider scope of this.

So if it's not going to be a smarter way, and generally cheaper way, then we're not spending a lot of time with it. So George's focus is around a real crystalized emphasis that we have going here. So are there any comments on any of his presentation?

If not --

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AUDIENCE: (off mike)

GENERAL WILLIAMS: Friday is not a problem here. Okay. John and Matt.

MR. PAWULAK: Thank you, General Williams. I'm going to lead off on this. I'm going to take a little slightly different tact. Realizing that OBO is deeply engaged in providing technically sound, smart, high performing facilities that are sustainable, I'm going to approach this looking at that period of time that is probably going to be the most costly, and that's during the O&M period, after commissioning, after construction. And I'm going to talk

primarily about managing energy and what we can do to increase emphasis to ensure that our staffs, at all levels, are engaged, and ensuring that we're getting the most return on our investment, whether that's a technology or if that's a procedure that staff is to follow. So that's what I'm going to really focus on, then I'm going to turn it over to Matt, and he's going to talk a little bit more about technology.

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A couple of credits first, the next slide, please. Of course, the Association of Energy Engineers, building owners and managers association, and for the folks who put out all of the information from the Department of Energy and the EPA, and some of the company associates that I've worked with in trying to put together some of this information.

There's been an awful lot of clammer out in the industry about technology, building envelopes, smart systems, energy efficiencies, green buildings, and we've all worked on them, in them, and around them.

But what I want to talk today about is how we can increase the emphasis by, first of all, managing the process, and its influence on sustainability; secondly, the importance of measuring performance and the positive impacts of doing that. I also want to touch on another area that's receiving increased notoriety, and that's systems integration, the controlling of all of these systems in a high performing, smart,

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intelligent building, the significant of commissioning, it really should receive more emphasis and interest, and then the overriding effects during the O&M phase and how that can contribute towards reducing energy, maintaining a level of smart buildings as we move forward.

The next slide. Too many times in the past, and I'm sure we've all seen this, too often energy management is considered to be decentralized, poor coordinated, managers are

paying bills or running the plant, they're reactive, under valued, or considered capital intensive.

These are sort of some basic classic management principals and tools that, if emphasized, can have a significant impact on our ability to conserve energy and to increase the intelligence of our facilities for either mission support or for environmental, you know, for the quality of life in work space.

This could apply to the entire building life cycle. It's extremely important during the

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O&M phase, primarily because it is the most costly phase. Some of the points here that, you know, the visions, goals, and objectives, those need to be powered down to the lowest levels within the organization, not just that 30,000 foot level, to ensure that they understand what those specific objectives and targets are that they're working for specifically in conserving energy or maintaining the smart building level. They need to be held responsible. They need to be empowered. They also must be given the resources to do this, the valuable training and the effective leaderships to make sure that they're able to meet their goals and energy conservation.

One thing that we see often is that we take a lot of recordings, trend analysis, predictive maintenance, and many times it gets recorded, it gets put into a log book, and that log book gets put up on the shelf, and it really is not carried forward by management to ensure that the results of those readings and measures are effecting the operations within facilities,

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and I see this all the time, and I think that area needs to be emphasized to get those energy management plans off the shelf, get those log books off, get facilities managers at all levels looking at those to influence the action, to make sure that we are effecting our energy program.

And last, but not least, insentivising

(?) the team is a good idea in energy conservation because it keeps interest and it motivates them in moving forward. Now, I think these are quite fundamental to success.

Next I'd like to talk about measurable performance. And there's probably some folks in this room that can talk to this better than I can. But certainly, there's some things out there that we could use to help establish the metrics to measure against. It's really exciting to hear that, you know, the LEEDS Program in OBO in the State Department is moving forward. I present that not as a way to measure, but it's a standard that can be measured against by the folks that work the facilities to make sure that we're

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maintaining the highest level of performance of those smart buildings and the energy conservation technology that's been put in place.

The International Performance Measurement and Verification Protocol which is put out by the Efficiency Evaluation Organization presents some current best practices in techniques for verifying results of energy efficiency, water efficiency, and renewable energy products. This also can be used by facility operators to assess and improve facilities performance. So it can move that down to their level to help measure what's going on.

Metering, we all understand the problem with metering, but certainly if it's not part of the CMOS (?) or the EMCS or whatever, intelligent program that you're putting into these buildings, then perhaps there's some others ways, either by using the old loggers or transducers or whatever to monitor, but somehow monitor the energy use.

Next I'd like to talk briefly about systems integration. It appears, and there's a

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lot of talk from industry, energy industry regarding the integration of building automation systems and converging with the traditional IT backbones. This slide just shows the -- several

of the traditional silos, security, EMCS, life safety, CMS, and the business functions which exist right now, and many of those are separate stovepipes. They're all managed, they're all provided by perhaps a proprietary organization or they're managed by a different function within the organization.

The folks in the field are looking at integrating this using IT as sort of the overall umbrella, not that they would provide the function, but they would do the same thing as finance and accounting does in support of an organization, and integrating those functions at each level from concept all the way through and including the operation and the maintenance period.

They see this as a paradigm shift, the smarter the buildings are getting, the more there

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is a need for this integration of tying it into the IT systems. There are some other alternatives, especially for the older existing buildings, and that would be to create sort of a building operation center. Move the facility manager out of the administrative environment, put him into an operation center where he controls the facilities or the complex operation, and get him involved in that so that he can make on the spot decisions.

It worked extremely well in the Pentagon at 911, they were able to control the air handlers, they were able to pressurize the chill water system to provide additional firefighting capability, it just added a whole new dynamic to the facility manager's ability to control the facility, so it's a thought, the building operations center. The next slide, please.

In commissioning, we've already touched on that a little bit. I think this is extremely important, it's key. This is a time for the operations and maintenance folks are integrated

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into the team to learn, get oriented, understand

how the systems were designed to perform, especially when we're talking about high tech, energy efficient, smart systems, control systems.

This is when the baton is passed. This is when the operators and maintainers take control of these smart, high performing facilities, and this is where they need to pick up all that information. This is an area that really needs a lot of increased emphasis to make sure that the next team can continue with maintaining the level of smartness or energy savings that was built into that building to begin with.

The next slide. The O&M phase has a real impact on sustainment. All too often there is a significant loss of knowledge, of information within the transfer of technology or information from the design, construct to the operators, and we need to reverse that, because if the operators are to maintain these facilities at the level that it's required to ensure sustainment, then they must understand what building baselines are, what

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is the standard it was constructed to, what is the energy conservation measures that are to be obtained, and the way to do that is by creating, first of all, having an effective hand- off, and I think that Doctor Ellis touched on this, in making sure that there's complete documentation of the as-builts and the baselines of the facility so the operators have these for further operations down the road.

Training of successors, not only those who have received the facility of commissioning, but in the transfer -- transition between facility managers, or if outsourced, between the outsource contractors, as well.

We also need -- we all need to increase the emphasis on our quality control and quality assurance efforts within our organizations to make sure that the metrics and measures, the trends, the system changes are all captured and available to the O&M team, it's extremely important.

And aside from applying advanced

technology to improve the facility performance,
this is one area that I think will have the most significant impact on the facility's ability to meet mission and sustainability. And with that, that completes my presentation.

GENERAL WILLIAMS: Thank you, John. Before we deliberate some on that, Matt, will you give yours, as well, then we can tie them together?

MR. WALLACE: Yes, sir.

GENERAL WILLIAMS: Okay.

MR. WALLACE: Energy costs have been increasing about, on average, four percent annually, it seems like a lot more than that the past couple of years. But utilizing smart energy has become a more important (off mike) around the world, and with the Supreme Court talking about it, global warming recently, it's going to become a pretty big topic, how to reduce carbon emissions.

In speaking with the OBO Champions, they asked that I get some feedback on some technologies, and the technologies were wind turbines, photovoltaic cells, magnetic levitation chillers, and ground source heat pumps. And first I looked into wind turbines and tried to seek some industry feedback.

The biggest case of federal funding from the United States that I found was a DOD agency who had installed four 275 foot wind turbines, which produced an average of eight million kilowatts a year and provided 25 percent of its energy, which supported 9,500 troops.

I realize that we're working with some compounds here that are smaller, so with wind turbines, it's a little bit more difficult for you guys to work with.

GENERAL WILLIAMS: Works better at -- Fort Hood then it does in (off mike)

MR. WALLACE: Yes; so I did try to do a little research on some technologies which may be

more applicable to the State Department. One thing I looked at, and it wouldn't be applicable to all locations, but for some, would be offshore wind turbines, with wind flowing over water much easier than on land. Denmark has been able to use this type of technology, and it's producing 25 to 30 percent of that nation's electricity, and they're trying to push that up to 50 percent.

Air borne wind turbines was something that was new, and it's not being used today, but maybe something down the road to be considered by the State Department. When they're using kites and helicopters to push the turbines 15,000 feet up into the atmosphere and there's a sustainable wind there, that might keep them lifted. There's obviously a large tether, and you wouldn't want to be including that in no fly zones or have those come down.

Something else which came up recently was the thought of putting them on top of roof tops. Smaller propellers, it's not -- you can't see it if it's on a tall building, it's something maybe the State Department should consider, as well. And as of today, they're not in operation either.

Next, I spent some time with photovoltaics, and in speaking with a gentleman from a technology incubator from the university, I stumbled across a technology which was recently patented which uses holographic technology rather than the typical silicone mirrors and expensive lenses. And this technology increases energy output. If the same amount of solar panels are used, it would increase energy output by 25 to 40 percent, and also, it's much less to purchase because it doesn't use that expensive technology. So as a result of using this, users have the potential of saving as much as 66 percent on installation costs alone, and with the energy increase, can save as little -- the return on investment can be achieved in 50 percent less

time, so I thought that was important to pass on.

If you compare using this technology compared to the standard technology which was used in Geneva, right now the Geneva photovoltaic system is saving about $60,000 a year; it could have been anywhere to $75 to $90,000 a year, as well as reducing carbon emissions by an additional

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75,000 pounds, so it's friendlier to the environment, as well.

Next I looked into magnetic levitation chillers and tried to get some industry feedback on average return on investment, and I was impressed with this technology, having never heard of it. So in the research that I found, there are numerous benefits with mag lev chillers; first, starting with the energy consumption, it saves 35 percent typically.

And I spoke with a building engineer who's monitoring his consumption regularly now that he has these installed, and he installed a control plan enhancement, which is a digital display, which shows energy usage, the average RPM's, which compressors are using so you can optimize compression, how many compressors are turned on. And next I realized that probably the largest savings with using this technology was in operations and maintenance, a big topic of today. I put together a chart which is in some of the handouts, but just to read off a little bit of the

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facts, normal oil analysis alone costs $2,500, and it's supposed to be completed regularly.

A chiller is supposed to last 25 years, and the oil analysis alone is -- it saves about $62,000 a year, and every five years you're supposed to rebuild the compressor, which costs about $150,000 over the life cycle together. To maintain a chiller is over $200,000. With mag lev, there's no moving parts that rub together, therefore, there's no oil needed, which would cut off the oil analysis.

There's capacitors which need to be

replaced, which is $500 every five years. So potential over $200,000 savings in operations and maintenance, as well as efficiency. When there's no rubbing parts, it's as efficient as day one as it is in year 20, which is a very large benefit in energy efficiency.

And I took the information of what it would cost, I had a random sampling of ten embassies in the world and what they were paying in cost, and having these chillers installed in

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these locations to see what actual savings would be, it's an estimate, and however, you know, I don't know much the chillers are used in Moscow throughout the year, but I thought if the same be around -- okay. So it gives you an idea, with that being one of the largest embassies on my list, it shows a significant energy savings, and I gave that information, as well. Ground source heat pumps was the last technology I looked into, and feedback which I gained was that it's best suited for temperatures which are an extreme, although I did find one location in Canada which is -- can reach below 40 degrees Fahrenheit, which showed significant savings.

The return on investment with this technology, from what I saw, can be as little as 5.5 years. And one common theme which I heard throughout talking with people was the operations and maintenance time was reduced, combined with the energy savings, it was a well thought out purchase.

I did get quite a few examples of where

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they've used ground source heat pumps and how long it took for that investment to return, and I'll read two. Once was a military base with approximately 4,000 military families, and an $18 million system was purchased, and it was paying back 3.3 million a year in cost savings, it's 5.5 years.

It was purchased, however, through a private investment, and the military agency only

saw 22.5 percent of those savings, but they didn't have any up front costs, which is something that, if you don't have the capital in the beginning, something that the State Department could consider. The other was that the location in Canada where they installed this heat pump and it returned -- the return on investment was just a few years, and the cost was 20 percent more of what it would have cost from the beginning, and they're paying one-fourth of what their energy consumption would have been. So there's a lot of investments in energy efficient technologies that both the public and private sector can make. With

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energy prices rising, these systems can turn into a real savings over extended periods of time if the life cycle of the building is as long as we want it to be.

And just one story which I heard which was pretty inspiring was, a building -- a federal representative was involved in an energy conservation program, and he started monitoring each of the site locations that was in the United States, and he would post these results, and just as a result of people being conscience of what they were spending on energy, a competitive environment started to evolve, and people wanted to lower their energy costs just to be on top of that list as spending the least per square foot, and it lowered it, within five years their energy spending of 27 percent. Sometimes just that -- just the thinking about it can help.

And I learned about a few other systems, I won't go into great detail, but one was creating hybrid systems. Using a wind technology and the solar technology combined can reinforce each other

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on daily or seasonal basis. If the wind blows when the sun is not up and the sun shines during periods of low wind, it just balances each other out so there's a constant way to keep using the smart energy. One thing which is very new is self- cooling microchips. Fifty percent of energy

costs can be spent on running IT systems. And although this technology isn't out, it's something to keep an eye out for, and I'm sure it's going to be thrown into every computer and serve made eventually, but that should show significant cost savings in keeping serving rooms cool and IT related.

The last thing was, if the State Department is looking to consolidate use of capital for building and operations and maintenance, it's going to help construct efficiency and life cycle into the building. John spoke about systems integration and getting operations and maintenance in mind through the process, from the beginning, it can help create that relationship so the end user can identify,

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design, and engineer the infrastructure to work for the customer in mind.

IT systems are forever changing, and technology, you're putting up a building that's going to be lasting 50 to 100 years.

Who knows how small computers are going to be ten, 15 years from now. So having a modular space in mind when you're putting up that building can help that life cycle go longer and keep those O&M costs down. There's great alternatives out there, and just keeping a pulse on the technology I think can do a lot in the long run. Thank you.

GENERAL WILLIAMS: Matt, I want to thank you, John, and of course, our team for your in depth research and your attention and your sincerity in trying to bring something to the table. Obviously, we all have been reading, we're watching, we're alert, but we have to lay some things out and put them on the table in order to create dialogue.

The timing of all of this is right on target for us. And we could go back in retrospect

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and say the notion of the Williams 20 might have been the smart thing to do, because we are addressing a very pivotal issue now in the

Department, and there's no secret that across our government, budgets are being pinched, and the O&M side of the house, you know, has always been an area that has been neglected.

I can speak with some degree of authority. My 20 plus years in the Corps, it was always second. But we're at the point now where we cannot do that, because sustainability with the kind of investment we're putting in the new places, the cascading question now is, how long will they be there, it's a tremendous investment, these things are very expensive.

And I know this subject this morning, because I notice everybody's body language not as nice as change orders, and you don't win many awards this way in the way of design. But let me tell you, you can lose your shirt and your job over night if you don't get this right. And so we know that this is an area that we have to look at.

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And we're looking for smart ideas because we want to take a smart today and beyond approach about it. We don't want to go back visiting things that will not work. The whole notion of the chiller, where we have oodles of chillers, and if we can mag lev these things, that makes just a smart thing to do, and we can roll that out and sort of demonstrate to the stakeholders what sort of savings can result from that.

There's a couple of questions that I would have for anyone who would like to try to deal with this. How does the cost shakeout with a mag lev chiller versus one of our traditional ones that Haney and his people like to design?

MR. WALLACE: You're asking what the cost, the initial cost is?

GENERAL WILLIAMS: What's the cost comparison?

MR. WALLACE: It costs 20 percent more.

GENERAL WILLIAMS: Okay. Twenty percent more on the front end?

MR. WALLACE: Yes.

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GENERAL WILLIAMS: And then I guess the case we would have to make is to look at that initial investment against the savings that would be generated across the way. Can you -- do you have a general feel as to how that would match up?

MR. WALLACE: As far as return on investment, it can be achieved fairly quickly. One federal agency who I spoke with uses it just as a back-up, but they don't even know when it's turned on. They know through reporting that when it turns on, it shuts off very quickly. And some of the other people that I spoke with saw an immediate return and saw that within anywhere between five and ten years, which is within your time frame.

GENERAL WILLIAMS: Right; and what would be the useful life of a typical mag lev chiller versus the ones we have today?

MR. WALLACE: They're both primarily the same. About years is what a chiller lasts. So what you're talking about also with mag lev technology is efficiency. When it's time to

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retune and replace parts in a chiller, you're not getting that efficient energy usage. It takes more to cool a building; with this type of technology, it's efficient throughout, so it's also -- it's a maintenance issue, as well.

GENERAL WILLIAMS: Very good.

MR. GLAVIS: General, I'd like to add that space, we're pretty concerned about space. We're concerned about the vibrations on this stuff sitting right about us. We're worried about the noise.

GENERAL WILLIAMS: Right.

MR. GLAVIS: And we have to design for those issues, as well, and those are all cost adders that we used to deal with with those large screaming machines. These machines are so small and so quiet that it's revolutionary, truly. And all of those cost reduction issues make this thing a --

GENERAL WILLIAMS: Just in space?

MR. GLAVIS: Space alone.
GENERAL WILLIAMS: And the areas we have
0115
to --
MR. GLAVIS: Yes, sir.
GENERAL WILLIAMS: Yeah, uh-huh.
MR. MINER: And that's provided in a little paper that summarizes all of the technologies.
GENERAL WILLIAMS: Yeah, he gave it to me.
MR. HANEY: Thank you, General. You could talk about this several days, but I just wanted to add that we've talked a lot about gadgets, and I've discovered that -- I'm doing a campus in the Gulf, it's about 5,000 people, and the single biggest energy saving effort that we're talking about is flex time, and that surprised me. You know, what does flex time have to do with energy savings?
And it's remarkable because, for those 5,000 people, if they stagger their work day by two hours, reduce surface parking, roadways, reduce the amount of air conditioning they have, because you can ingest seasonally for day light
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and not working through the hottest part of the day, it was an eye opening thing, and there are no gadgets involved in this.
So here's a case where by looking, I guess it's an operational issue, but we're actually reducing first cost and life cycle costs simply by thinking about flex hours. So it's not always -- although I do love the light pipes, I've been trying to do that at several projects, they get canned right at the end, that's a great one, but we all are attracted to gadgets, but I think there are, especially with the numbers of people that you employ, there might be some human issues that might also save energy.
GENERAL WILLIAMS: Well, in our business, Gary, you're absolutely right, to go after this from a Department of State's point of

view, or any agency's point of view, would be to do it comprehensively. You should attack all of these things from a comprehensive point of view.

But somebody has got to step forward and sort of be the legs to make this happen. And our

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HR side of the house naturally would -- can look at a whole bunch of things that can deal with energy, just plain discipline around -- in the use of the facility. But we have to deal with gadgets, however bad they sound, because we are in the gadget business. You know, our building, you know, might be in that category.

So we don't have any other vehicle to use to attack this, and we have to deal with it, other than looking at the mousetrap and seeing if we can't improve the functionality of the mousetrap so less on the energy it drains. And we would hope by coming forth with this in a very robust way, that our friends on the HR side and anywhere else that connects in a comprehensive way would look, as well, and help us get there.

Anything further?

MR. GLAVIS: I think you capitalized very well. Thank you.

GENERAL WILLIAMS: Okay, good. Well, we're at a point now where it's five minutes until 12:00, according to this clock, and we've gotten

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through two of our very delicate subjects. We know, as Gary said, we can talk days and weeks about these matters, and we deliberately put them at the end of the Williams discussion so that we could have some time to explore them. It's still a lot of work left to do, we're interested in ideas. We do intend to put a heavy dose of emphasis around smart, efficient and sustainable buildings, and obviously it connects to all that we have talked about this morning. I appreciate the panel's research and your dedication and your ideas.

It's coming at a good time for us because we're addressing in the Department a

little bit of how to about the O&M going forward and the whole introduction of outsourcing, which some of you have put on the table, is a very interesting piece that we have to look at, because there is a matter of the value that we find in the existing staff around the world, it varies, and if we're really looking at cutting costs, we're going to have to break some of the paradigms that we are

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currently exercising. So this has been very helpful, very useful. We'll continue to engage you, we're not finished these subjects yet, and we'll continue to dialogue about them. And, of course, our friends who are not members of the panel that have been subject to hearing all of this, if you have any ideas you want to advance, contact Gina, we'd be happy to listen to that, as well.

At this point, I need to do a couple of things, and then Gina will give us lunch instructions, and we'll move forward.

I need to recognize Mary Anderson who came in. She is one of our former panel members. And everywhere that OBO is doing anything, I find this lady.

I look around in the audience, and this is very comfortable because, you know, we need to have the support, and Mary is always trying to do her very best to put the explanation on what we are trying to do here, and we appreciate your work, and we appreciate your attendance.

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MS. ANDERSON: I'm sorry my shortcut didn't work today.

GENERAL WILLIAMS: Okay, good. And also, you know, this panel, and I must tell you, it's a highly sought after panel, we don't have to ask but once to get participation. Our organizations that feed the panel, because we go to the organization and they provide some wonderful resumes for us, and then we make selections from that.

This is not going behind a tree and

whispering to the next guy and putting them on the panel, it's a very methodical process. So we know we got the representative from that particular organization on our panel because the organization advances. This has caused our panel to be one of the most effective, says the folks who do polling in this town, and that's very helpful for us. And the tenure is restricted, obviously, to a period of time, and by the time we get people worked up where they can begin to roll up their sleeves, it's time to go. But we try to keep a string on

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them, as we have with Mary and others, so that they can continue to help us.

We have one of our members leaving today, this will be his last meeting, he's served his time and he's done it well, not served his time. Well, he will probably say that, okay. He has been a member of this panel and he has done a magnificent job, I clean that up. So, Gary, if you'll come forward, and we have something to do here.

MR. HANEY: Can I stay for lunch?

GENERAL WILLIAMS: Yeah, as long as you drop the word gadgets. Okay. What we do here, we want our members, and Congressman Wolf got one of these, as well, and I understand he keeps it in a very good place, it shows about 29 or 30 of the trophies that we have put out, and Gary, you've been a part of a lot of this and we really appreciate your wonderful insight and that of your organization, as well, you've been a very candid, straight forward advisor, you've been very helpful to us, and me personally, and I want to thank you

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for a job well done.

MR. HANEY: Great, thank you, happy to do it.

GENERAL WILLIAMS: Just a moment.

MR. HANEY: Oh, there's more.

GENERAL WILLIAMS: And so that you don't forget about us and you have some reference to building diplomacy, this is a wonderful rendition

of architecture of American Embassy, so sometime in your quiet time, when you don't want to think about architecture as an architect, you read this.

MR. HANEY: Very good.

GENERAL WILLIAMS: Thank you very much.

MS. PINZINO: Thank you General Williams. I'd like to ask he panel members to follow Phyllis and General Williams to the executive dining room for lunch, together with the managing directors and the chief of staff. At this time, I'd like to ask the OBO staff members to please assist with escorting our guests to the lunch facility downstairs, and we'll be back here at 1:30, at which point, sir, maybe you'd like to do

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the family photo with the panel members.

GENERAL WILLIAMS: Yes.

MS. PINZINO: Is that okay?

GENERAL WILLIAMS: Yes, with Gary. Well, I'll tell you what, let's do that now.

MS. PINZINO: Okay. Because we're missing -- Lee has not arrived yet.

GENERAL WILLIAMS: He has not arrived yet?

MS. PINZINO: He's running a couple of minutes late--

GENERAL WILLIAMS: Let's wait and do it -- okay, 1:30, okay.

MS. PINZINO: Okay, thank you.

(Lunch recess.) XXX TAPE 3A XXX

(Afternoon session.)

GENERAL WILLIAMS: Okay. I think it's time for us to get started. If we could close the door. We had a very spirited discussion this morning, lots of information we all gained from that discussion centered around topics that are very critical today, particularly in tight money

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times, and we want to move ahead now on another subject that is equally important, and it has to do with, as we look at our lean process and think about what are the value nodes in a particular process, obviously for us, in the business of

design and construction, one of those nodes would be the ability to procure and to do the acquisition of third party and private contractors.

So anyway we cut it, the procurement side of our process is very critical. In some cases, it can make us, in some cases, it can break us, and so we have to be very, very sensitive about that particular piece of it. And that's the reason, as we roll out the Williams 20 and was looking at new ways to think, we cannot totally look at new ways to think and build without considering the process. And embedded in the process is something called procurement or acquisitions, depending on where you come from.

But we're going to talk about it today from the standpoint of what was in my thought

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process. We have to help bring the procurement team, because it is not a part of OBO today, it's a part of the Department, into the new ways to think, new ways to build mentality.

And for that, we have asked one of our members who has a background, before he became a design builder, in procurement, with NASA and the Navy and other places, to participate as one of the leads, together with Ed Denton, who has a great opportunity to do this at Berkeley in his capacity today and prior, together with our planning and managing director, Jay Hicks and Walter Cate, who is the -- has the divisional responsibility for the support to our organization from his bureau.

In other words, Walter Cate is that node in the value chain of a process that is critical, and so that's the reason we want to make certain that we get this piece illuminated in the context of LEED management. Okay. We're on.

MR. HICKS: Thank you very much, sir. Good afternoon, good afternoon, everyone. We have

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the topic of procurement and how that connects to new ways to think, new ways to build. Two

elements of that, first of all, is the procurement team, and for the purposes of today's presentation, we're defining the procurement team as myself and Nick Rutherford, who I'd like to introduce, division director in my office, Planning Integration Division. He's in charge of the RFP's, and he's the point of contact with Walter Cate, my other colleague in today's presentation, the point of contact between the OBO prepared RFP and the ALM contracting mechanism.

Although in talking to Lee, Lee has a somewhat more expansive view of procurement and acquisition and that we're all engaged in that activity in one form or another. But for today's purposes, we've limited it to the three of us for presentation purposes.

The other component of today's assignment, new ways to think, new ways to build, it's really a state of consciousness I think the General is trying to promote within OBO in a way

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to think and have it be a part of the very fabric of us organizationally and us as individuals, but the General doesn't spend a whole lot of time in the abstract, as all of you know, and he made the concept of new ways to think and new ways to build very tangible with his Williams 20.

So the way we approached this assignment was to simply take the Williams 20 and identify those of the Williams 20 that we felt connected most directly to procurement. And in that instance, we found ourselves identifying ten of the Williams 20 that we felt really spoke to procurement in one form or another. So what we'll be doing is moving through a slide for each of those ten Williams 20, briefly touch upon what we're doing to bring us as a procurement team around to new ways to think, new ways to build.

And what I'll do is encourage Walter and Nick to chime in and amplify or echo anything I have to say, and the same would apply to, of course, Ed or Lee if the spirit moves them during the course of my discussion.

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Next slide. The first Williams 20 that we wanted to speak to is move to a true risk allocation process that is fair, clear, and accessible to all parties. You're going to see us using slides within slides. The slide within a slide here is a slide that was presented last may in the industry forum that General Williams promoted. And we certainly want to speak with one voice and be consistent and so that's what we're doing here today.

What we've done is, and I think General Williams did it about as clearly and concisely as you possible could, is take 13 principal risk elements and allocate those either to OBO or our design build contractors, and obviously, that's an idea. The key is to translate that direction to the RFP. And if you take 1406 projects times 13 risk elements, that's over 180 different allocations of risk, if you will, across projects. They did a very good job on that on the '06's. There were a couple areas where the language wasn't as tight and precise as it needed to be,

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and General Williams talked about his role is to get peoples' heads straight on translating that into the procurement process. We did a very good job on it.

We could have tightened up a few items in the '06, and I'm lucky to have a head left, quite frankly, after that straightening process took place. But we're well under way on the '07's to firmly establish, as we did, obviously, a very large part in the '06's, all those principals into our '07 RFP's.

Next slide. Avoid adding non-traditional scope of work to the general contractor's design build team. Something we did in the '06's was standardized section C and section J attachments across the '06 program, so there's a lot less variation and deviation between NEC (?) projects within the award year, but there is some very circumscribed area of non-traditional

scope, certainly there are particular factors associated with that individual property and project, very discreet, limited areas.

The only really non-traditional areas that we can speak of, first of all, are DS requirements, which are truly particular to the embassy construction we do, and some IBC code supplements that Bill Miner has, I believe, spoken and addressed at different points to this body in terms of how we approach that. But the principal is, keep it standard and keep it consistent with the spirit in which we're doing these. We don't do them one off, we have standard protocols and procedures and designs, and that has to migrate to the various parts of our solicitation package. Next slide. Allow specialty contractors to perform highly sensitive and specialized work.

MR. RUTHERFORD: I'll speak to that, Jay. This is one area that was a change that started in '06, actually '05, where we started getting into the forced entry ballistic procurements, where all the exterior doors and windows were brought into the contract by a special contractor that we hired, we provided that material to the general contractor.

The expansion in '06, something that actually was just finished, the procurement for Karachi, as well as the procurement for Beirut, which is going on right now, we expanded that and actually made the housing project, which both of those projects have, we included the windows for that in that program, as well.

We did that by drawing on the window designs that we had from some of the other buildings on the site, which were part of the program, and brought that into it, so in this case, we really expanded the role of the specialty contractor by using those forced entry ballistic doors and windows into the housing. So this is very much an expansion of how we're using this program.

GENERAL WILLIAMS: Let me add one other dimension to this, because this is where sort of the rubber comes together here. I listened to our AGC friends who have been a partner with us since we got started here, and we don't treat anything that's presented to us very lightly. The

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difficulty of working in some parts of the world is driven by having concerns about the site. Since we, OBO, select and we buy the sites for the government, we should take some responsibility for being responsible for that.

So in the notion of risk allocation, we felt that site conditions in its total, and this is really stepping out on a lot of risk, that we ought to be responsible. I thought we owed that to our community who would participate. If we asked someone to go to Karachi, I should deliver, I felt, a clean and buildable site. So all of that should have taken place prior to the contractor arriving, which is a big plus, as far as I'm concerned, having been on the builder side. I wish someone would have selected the toll road sites for me when I built that.

But this is a big enhancer, gets the contractor off to a very good start, helps with the scheduling, which also had been kind of an issue with the AGC, and so that part of the risk is risk number one, and it is going to be a part

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of the way we ask and get services done going forward, in addition to what Nick is talking about. Okay.

MR. HICKS: That's right. Thank you, sir. The next slide. Represent to the design build team that all rights of passages usually have been handled to the extent that they will not impact an orderly construction process. We've, in the '06's, made some very noteworthy changes. What you'll see here are categories in our initial planning survey that we do as part of our routine planning process on all NEC's. Those are the major categories, and those are things that we're

charged with working out during the planning process. Things like real estate titles, security waivers, zoning, those are deliverables that I have, I have to provide proof that I've secured all that.

Construction permits are still the responsibility of the design builder, but I have a role in understanding what that process is, articulating it, and being willing to help if the

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need arises, but under no circumstances taking on the responsibility for pulling those permits. But those are things that we have to do and be very sensitive during the procurement process in terms of where that responsibility lies across those items.

Next slide. And this, again, are slides from last May's industry forum. It gives you examples of the types of letters and assurances that we provide our design build contractors, that, in fact, certain rights of passages are truly resolved at the time they get involved with us on a project.

Next slide. Move to provide simple, clear, and firm RFP language. Like the General, I've spent, in my case, most of my career in private industry and I've bid public work before, and I think our RFP has served us well. We couldn't for 14 buildings a year without an apparatus that worked. But I'm the first to admit, and as are others on the procurement team, that we can be doing a better job with our RFP

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language, and by a variety of different measures in terms of readability, user friendliness, and there's some things we can do.

And, in fact, Walter and I were emailing ourselves late last night on this very topic, on some very robust quality control and editing, if you will, of the RFP that we have today, so those of you that are involved and see our bid packages, I think you're going to be pleased with what we come up with.

GENERAL WILLIAMS: And let me make a point about that, too, a point of interest, because it is important for clarity and it's important for everyone to hear it, the panel, the visitors, and also our team; simple and clear around site conditions, just like I said, it is OBO's, the government's total responsibility, no equivocation, straight forward English.

MR. HICKS: I don't need three pages to say that, I need more like three sentences. And so we're really going to Dick and Jane this thing to the extent we can humanly do that. Nick, did

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you have --

MR. RUTHERFORD: I'd like to add a piece. One of the things that we've been doing over the last several years is moving our entire procurement to an all digital format. Those of you that do participate know that we do use Prognet (?) through a bidder inquiry. We're now doing everything that way. What you see here is an example of one bidder inquiry, how we're handling it, it's a similar format to what we do with Doctor Checks. This also informs us how we handle amendments during the procurement process. It also informs us on a lessons learned, so to speak, of where we have some weaknesses in the documents, where we improve it either at the time or in the next year.

But more importantly, I think it goes back to the point that Jay made about the section C and the section J and the attachments, in that to clarify and make this a better process so that people don't manipulate the system, we derive most of the documents for RFP from a single source.

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So all the far clauses, all the standard documents all come from one file, and this is really important, this is part of the process to really make this very simple, very straight forward, so that if you read one contract, you look at one place, it's the same on every contract, and we are working more and more towards

that, clarifying and simplifying that process.
MR. HICKS: Thank you, Nick. The next slide.
GENERAL WILLIAMS: Well, let me just -- I'd just like to get a little bit of feedback from John on this one particular risk item. Do you think it makes sense?
MR. BAROTTI: We had a conference with all the contractors who were involved, and this was not brought up as an issue at all.
GENERAL WILLIAMS: Okay.
MR. BAROTTI: So I think things are moving pretty good along these lines.
GENERAL WILLIAMS: Okay, good. All right.

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MR. HICKS: Ensure estimates of drive from empirical data extracted from normal conditions. This was a homework assignment that was discussed one or two IEP's ago. But, obviously, the cost estimating apparatus is an intrical part of the procurement team. They might, as well as some other offices, have every right to be sitting at the table right now.
But we use, obviously, the latest market data we can get to inform our projects, as well as the results of our '06 projects, to inform later '06's and '07 projects. So we're very much steeped (?) in empirical, factual, real world data to guide our estimating process, and estimating is an intrical part of our procurement process, obviously.
Next slide. Seven, move value engineering to the planning phase of project development, that's a change that's been discussed many times in this forum. It's now done during the planning stage, my stage of the process. And I probably should -- I meant to say it in the

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beginning, my stage of the process in planning, I think of it as pre-constructural, pre-construction minus the real estate fees. So I carry these projects, for your information, from the long

range plan, which could be as many as six years distant, through the budget preparation, and all the way through space planning and any number of efforts to go into planning the project through RFP. So I have that whole front end of the piece minus a very heavily weighted real estate piece that I pre-dated and follow, so just a little familiarity with what my office does.

But obviously, value engineering was at the construction side, the Joe Toussaint side of the process, now it resides firmly within, when the event occurs, firmly within the planning process, and we think we're getting much more bang for our buck that way.

Next slide. Eleven, deliver a building site that is ready for construction. Now, General Williams spoke to that just a moment ago, very important to us. The two slides we are showing,

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again, come from the May industry forum. The first slide, the slide at the top, shows things that OBO will provide, and we provide a variety of studies and proposed grading planned surveys, topo, a variety of different things.

The slide at the lower right hand corner are things that we will ensure that that site looks like. It's sort of a uniform standard or minimum standard for the condition of the sites. Now, we could get a site that's ready to build by purchasing it that way, a finished lot with curved gutter utilities, you know, good engineered fill if it were required. We could have the seller do it as part of the purchase agreement, or if we can't do it and real estate can't get me there, what we're going to do is, we are contracting separately and we'll make it that way. We'll bring all sites up to a minimum standard of buildability, ready to build, as the General describes it.

So we've got robust packages who are actively working for all the '07's, to take that

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risk element and that worry item out of your side

of the ledger and on to my side.

The next slide. Sixteen, deal appropriately with change orders immediately, set time periods in the early stages of the process. As the slide says, initial procedures were developed in '06 and will be implemented in '07.

I think the operative things in the italicized language, the government will endeavor, where appropriate, and if required, within 30 days, to issue a modification, and if within the authority of the contracting officers, that's Walter's world, more than 60 days of additional approval is required, obviously charging ourselves with a performance metric around how fast we'll advance these.

It's a vulnerability we feel we had in the past. The slide we've shown comes right out of the industry forum. I think many of you have seen it before. It lays the principals General Williams wants to see embedded in the procurement process, and obviously we're committed to doing

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that. Next slide. The final of the ten of the 20 that we think touch procurement design reviews must be expedited and cannot generate requirements that add scope without identifying funding and allowing time extensions. That gets to Bill Miner and Joe Toussaint's world again. But there are really two parts to it.

Faster downloading of projects using Prognet, and then the other component is the integrated design review process, is being enhanced, was enhanced in '06 and will continue to be in '06 to allow interim reviews of projects in a better, more collaborative relationship. We hope to forge with our design build contractors as we go through the process.

GENERAL WILLIAMS: Let me say a word on this, as well, to show you, once again, how serious I personally feel about this matter. I sent a note to Joe and Bill several weeks ago, months ago, I guess, and asked them to benchmark with anyone they thought was appropriate in the

22 government and see where we stood up in terms of a
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1 design review record.
2 Currently we have 17 days on the books,
3 and I asked them to take this 17, and if we were
4 on the lower end, to get in the middle. So, Bill,
5 do you want to speak to it? Is he here?
6 MR. MINER: I got the note.
7 GENERAL WILLIAMS: Okay.
8 MR. MINER: Let me just correct the
9 quote you said. You showed me that you were
10 average, why can't you be above average?
11 GENERAL WILLIAMS: That's what I said.
12 MR. MINER: And you gave me a mark to
13 work to (off mike)
14 MR. TOUSSAINT: I think the other thing,
15 if I may, is that the research we did showed that
16 we were doing all right, but then we found that
17 there may be some opportunities to do even better,
18 so that's where we're going with it.
19 But it's, General, you're always
20 challenging us, even when we started off with the
21 integrated design review, which was going to be a
22 leap ahead for us, which it was, then we look back
0144
1 upon that several years later and we say, okay,
2 we've heard the good news for the last two years,
3 now how good is that news. And it has produced
4 results, but there's always an opportunity to do a
5 little bit better.
6 GENERAL WILLIAMS: And, you know,
7 challenging our team was never to suggest that
8 they were not doing it appropriately. But I
9 wanted a good, strong signal back to industry.
10 Bill called it above average, I call it the
11 middle, Joe called it a little improvement, it
12 means the same thing, do it just a tad bit better.
13 MR. CASTRO: And it's a key principal of
14 moving from six sigma to lean, which is, you don't
15 let other peoples benchmark become your cap, you
16 start figuring out what the ideal state should be
17 after you've mapped it out.
18 MR. HICKS: Thanks. The final slide,

just amplification of that slide, it's from the industry forum that show exactly what that means, and obviously, the slide in the upper right actually, the concept is being incorporated into

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sections via the RFP, so it's not, again, a lofty platitude, it's real operational language that's making it into the RFP. So look for all of these as we move forward, those of you that are partnering with this.

And with that, it's a quick overview of ten of the 20 and what procurement is doing about it. Walter and Nick, did you have anything else you wanted to add at this point?

SPEAKER: I'd just like to say that we're continually trying to improve our document, but using configuration management techniques so that we don't and we can control any kind of excessive or inconsistent changes. We don't want to make it worse in the process.

And then we're also looking at other opportunities. One thing we've discussed is how could we earlier in the process incorporate input from industry to improve the document, so we're talking about that right now and trying to see how we could implement that.

MR. HICKS: Stay tuned. And with that,

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Lee, I think you have a follow on slides you'd like to share with us.

MR. EVEY: Yes, thank you, Jay. But first I'd like to just say a couple of words in response to your presentation. First is, I'd like to commend you on what you've done. I think you've taken this on as a serious project and you've done a good workmanlike job and you've shown good faith in the effort that you've accomplished to date, and I think that that shows in the product that you've produced.

Specifically, the area of site risk, and one of the key elements I think of making design build work properly is not to try to slide risk off onto somebody's else's plate, but to look at where it

is that risk rightly resides and how risk can be appropriate and properly shared, and I think that's the thing that you're doing very effectively here, is trying to find the right location for that risk and treat it accordingly.

The standard blast resistant and other specialized materials, I think you've struck a

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solution there that's excellent. It also has great opportunities for you in terms of standardization perhaps around the world that will facilitate some other activities within OBO, as well.

Your third party RFP review initiative, I think that's excellent. And we'd love to volunteer some people to join with you in doing that effort. The expeditious handling of change orders, you know, it's interesting, having served in the government for 32 years, government people often have very little insight or understanding of what it is that's important to the people that are on the other side of the table.

I know it came as a surprise to me to sit down with contractors and learn that they're always interested in things that really didn't seem very important to me as a government guy, but really, it's just common sense. They're interested in, what do I have to do to have accomplished the work, you know, what do I do to accomplish the work. Secondly, how are you going

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to measure that to determine whether I accomplish that work or not, what standards are you going to apply, or what tests are you going to give me, or how do I pass the test, okay.

Thirdly, who is it that decides that I passed or didn't pass. And fourthly, how do I get paid, okay. And, you know, and I think in trying to make sure that you've standardized those processes, you understood what's on the other side of the table as well as you have, I think will go a long way.

Doing things like expeditious handling

of change orders, that's a perfect example of things that are very, very important to contractors, and often, they don't seem as important to the government people, but they're really important to the ultimate success of your project, so I laud you for that.

The same thing with design reviews, you know, I think we've all seen, it's like the black hole of Calcutta, where the design reviews go and they stay for a long time, and the contractor is

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on top, dead center, unable to move until those come back, so I think that's very good.

Value engineering, I think the idea of moving it earlier in the process is excellent. One thing I would mention is, you know, the idea of a 30, a 60, and a 90 percent design review; one of the things that we tried with good effect, and I hope they're still going it, is an iterative process that's kind of always ongoing, so you don't suddenly have people walk in with a 60 day design review and drop it on you and you start -- hopefully there's communication taking place constantly and you're constantly engaged and involved in that communication process.

So if you have a 30, a 60, and a 90, those are the points at which you go back and you double check that you really accomplished and solved those challenges that you identify in that constant iterative process going back and forth. But, again, I'm very, very positive, very pleased, and I laud you for what you've done, Jay, thank you.

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Now, I put together some charts, and the intent of these charts is to try to spark your imagination and perhaps some discussion or whatever, Jay. First, I want to be perfectly frank with you, I'm going to be very up front with you, General Williams.

You know, there are people in the design build community that come to me and they're actually pretty upset that I sit on this panel,

okay, and that I don't complain a lot, okay, and they say things, and I'm just being honest with you, they say things like, General Williams doesn't really do design build, okay, he does something else, you know, it's not our design build, it's not the way we want to do design build. And I will say, quite honestly, you do your version of design build, but that's okay, there's lots of versions of it out there, okay. And you know what I usually say back to them is, you know, they didn't ask the guy to put together a program to do really great design build, they asked the guy to put together a program to build

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buildings that protect peoples' lives, property, and prevent injury, and that's what he's doing.

And I'll be quite honest with you, although it may not be the pure design build that people sometimes would like within DBIA, it's your version of the design build, it works, it's getting the job done, okay, and to be quite frank with you, if I were sitting where you're sitting, I'd probably come up with a program that had a lot of the same characteristics that your program has, okay.

So all of those things said in advance, there's some things I would like to throw out to you, not to say you really ought to change your program and go do this or that, but rather to say, here's some ideas, here's some things you might think about, some of them you might be interested in trying at some point in time.

And I certainly would never recommend on any of these that OBO try to make a wholesale change to their program or anything that I'm going to talk about today. But I would like to think

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that OBO might look at some of these things and say, that are interesting, let's find ourselves a little project somewhere and let's try it out and see how it works, and then if it works well, maybe we can expand it into our broader program, that's all that I'm trying to hope for. Then the last

thing that I would say before we actually get started is, well, this is a hell of an assignment, you know, new ways to think, okay. So you didn't give us just something that we could come up with a product or, you know, give you one sheet of paper and say here's the answer.

GENERAL WILLIAMS: Didn't want the B and didn't want the S.

MR. EVEY: You asked us to think, and that's almost -- that's bordering on unfair. The next slide, please, okay. So I tried to give a lot of thought to this to try to capture some things as succinctly as possible and be maybe a little, you know, aggressive here.

Okay. In our business, the ultimate measure of our success is always how successful a

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contractor is, okay. No matter how good your program reviews are, if you bring in your projects late, they come in over budget, it doesn't have the proper quality, and people aren't protected, they're not going to think very much of your program, okay.

So I know in -- and I may have said this last time, and at the risk of repeating, I'll say I've spent 32 years in the government, and in that 32 years, there are a lot of times I saw my programs on the front page of the Washington Post, sometimes for good and sometimes for ill. And every time that it appeared on the front page of the Washington Post, whether for good or for ill, it was always there because a contractor either did a great job or they did a bad job. And I very quickly came to realize that the success of my job is absolutely, totally, 100 percent dependent on making contractors successful, so therefore, that should be our goal. And our procurements and our acquisitions, our goals should be to make contractors successful.

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And by the way, on all these charts, I have little notes here that -- right there don't show up very well, does it, but it's -- design

build is flexible on these little notes on the various tasks here, because last time some folks made a number of (off mike) saying, well, you know, design build is really good for the little projects or the really simple projects, when we get to the tough stuff, it's really hard ones, it's not all that good, okay, it's not quite as flexible as we would like.

And I will say to the contrary, that's when design build really performs, and that's when design build really shines.

The tougher it is, the harder it is, the more complex and complicated it is, the more communication it requires, the better design build does, because that's what design build is all about.

It's about communication, it's about team work, it's about all of us working together. So that's basically what the summary of little

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notes are telling. Next slide. So I'll make a statement now. I think that current acquisition practice assumes failure, not only assumes failure, it plans for failure, okay. And the fact is, when I took over my program, and I looked at the contracts we were putting out, and I had spent 26 years as a contracts guy, okay, and suddenly becoming a program manager forced me to look at the things that I had done as a contracts guy in a very different perspective, and I realized that I was putting out solicitations, and once I stripped out, you know, designs, drawings, specifications, and standards, and I got down to the real guts of the contract, almost everything that was in there was negative, it was based on the assumption that we were going to fail, and it was all about what we were going to do after we failed.

And I'll give you an example. You know, if a contractor -- if a contracting officer decides they need to make a final decision, by definition, that's probably a negative environment, you're probably in a very

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confrontational situation.
You know exactly what to do. In the far, it's covered in great detail, and so I bet contract is going to be covered in great detail. It's going to tell you each and every step you go through, what the time frames are, how you go about doing it, et cetera, because it's negative. And we write our contracts so that after we fail, exactly how we're going to beat each other up is very, very clear.
But you'll go through most government contracts and you will search in vain for what it is that we do when we're successful, and how we're going to reward each other, how we're going to help one another when we're successful. In fact, you know, it's interesting sometimes, they have conversations with contracts people, and you say -- let's say you had two contracts and they were exactly the same contract, for exactly the same amount of money, doing exactly the same work, and one contractor barely got up to the point of acceptability and then just barely flopped over,

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and the other contractor did an absolutely wonderful job, just an extraordinary job, satisfied your every need, surpassed your expectations, how do you treat them differently, and the answer is almost always, well, we don't. We promised them, we pay them in our fixed price contract a certain amount of money, and that's what they get.
And if you just think about that from a common sense perspective, if you have two contractors who perform in a dramatically different way, and yet we treat them exactly the same, have we fulfilled our obligation and our requirement to try to do everything we can to provide the very best possible environment for the customers that you support?
So my question is, instead of assuming failure and planning for failure and figuring out how we're going to beat each other up, why don't we assume success and plan for that, and start

thinking about what if contractors give superlative performance, how do we treat them

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differently, what if contractors give us an extraordinary product, an extraordinary quality, an extraordinary performance, why don't we treat them in a different way, because I think if we do that, we'll see more of those extraordinary performances in the future.

Next slide. The next point, which is kind of a spin- off of that is, you know, I live in Washington, D.C., like probably most of you do, so probably just like me, you're every Sunday afternoon sitting in your family room watching the Washington Redskins and crushing beer cans, okay, that's what I do. I have a nice pile of them by the end of the game, okay.

And you can see that the color commentary guys, they have the little electronic pens and they write on the screen, and they talk about, well, you know, this player came around here, they did this, they moved here, this guy did this, and he did that, and they draw it all out for you on the screen, and they almost always say exactly the same words, which are, this happened

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this way because of team work, team work is what made this happen, team work made this a success, or a lack of team work made it a failure.

And I would say to you, if team work is so important that we all sit in our family rooms every Sunday afternoon crushing beer cans and saying, you're right, you're right, John Madden, team work is really important, if it's important on Sunday afternoon, why isn't it important on Monday morning when we come to work at our jobs, okay, and what can we do to increase team work and make team work a larger component of what it is that we do, how can we use the acquisition process to increase team work and make it a more important and significant element of what we accomplish. So if it's important, how do we plan to achieve it, and how do we reward it when we get it? So the

questions are, and I think these are things that can guide us as we look at what we can do to possibly improve the acquisition process, how do we show that we value contractor contributions?

I've probably gone into, in the past two

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years, 200 offices, I'll be 200, all around the world, and talked to people, and it's interesting, when you walk into organizations, that if hired contractors to help them achieve their mission, and in most government organizations you can tell when you walk in the room who's the contractor, who's the government person.

This may not have that much to do with contracts, but I think contracts set the proper environment and help make this transition take place. It's easy to tell; usually when you walk into a meeting and there's a mix of both types there, the government people sit at the table and the contractor people sit with their backs against the wall.

The government people talk, the contractor people take notes. The government people make decisions, and the contractor people sit and watch the decisions being made. And I think when you walk into an environment like that, you have to recognize that you're in an environment where you have an organization that's

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not achieving optimum utility from the contractor that it has on board. They have to be part of the process, they have to be part of making the decisions, they have to be engaged, they have to challenge, and what we can do in our contracts is create the environment where those things can happen and help make that process occur.

How do we reward their contributions? If they contribute, how do we reward them? Because if we don't reward them, they won't be making the contributions. How do our positive opportunities compare with our negative consequences?

Now, probably everyone knows all about

liquidated damages and other things that can happen to people if they fail to get a contract performed on time. Sometimes it's very important to us to get contracts performed early, as quickly as possible, it's almost always to our advantage to do that. Do we reward that kind of behavior? If we reward it, we'll see it.

And then finally, how do we evaluate our

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performance? I want to laud you here, too. You are one of the very few government organizations that I go into that really tries to sincerely and very effectively evaluate its own performance. At the Pentagon renovation, we had an opportunity to go talk to a bunch of people at Marriott one time, and they're known for being pretty good, okay. And they asked us a question, they looked across the table and they said, you guys tell us, how fast are you turning around your RFI's, and we told them. And there were two things about the answer that we gave them that really surprised them; one was, we knew. And in most government organizations, the managers had no idea how long it took them to respond to RFI's, because that was on the owner's side, that was on the owner's plate, that was on the government's plate, and they don't count that, but that's really important to the contractors and their ability to perform.

And the second thing that really surprised them was that we were turning ours around faster than they were turning theirs

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around, okay. And if you don't track it, if you don't evaluate it, if you don't look at it on our side, we do so many things that dramatically impact contractors, and we need to get that kind of information from them, understand what we do, understand how we impact them, and understand what we can do differently to make them successful, because after all, we're only successful to the extent that they're successful.

I got just a number of things now and there's not enough time to talk about all these

things in detail. But I'm going to lay these things out just as items, as issues, as things that we could look at to possibly improve the acquisition process, okay.

Early team formation, formation of integrated product teams really, really early in the process; the use of a preamble, which is a term that probably only one person in this room knows what it means, okay, and the use of preambles to capture very, very early in the process what it is we're trying to do in terms of

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goals, challenges, problems, and constraints, so that we can get this acquisition underway much, much earlier than you could otherwise.

Use of performance specs, negotiating, not bidding, best value or quality based selection, most probable cost analysis, life cycle cost analysis, O&M considerations in selection, because we're going to live with these things for many, many years, confidence analysis, not risk analysis, multi-phase source selection, offer involvement in the preparation of the RFP, bringing the contract.

The standard design build process is a two-phase selection process, that's what we teach, that's what's written in the FAR, okay. And some of the things I'm talking about are to leverage that first step, to get those kinds of activities done as quickly as possible so you can get this process underway, get your work being done much, much more quickly than you might otherwise, and it also allows you the opportunity to bring the competitors on board and have them involved in

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writing their own RFP, which has produced dramatic, significant improvements for us.

Earned value analysis, stipends, build a budget, reward fees, incentive fees and things like that to provide you an opportunity to provide positive reward for contractors. Now, I brought with me today the OMB capital programming guide, Office of Management and Budget, okay, and it was

published in June of this year, brand new, I think it's been about ten or 12 years since they published it, okay. And I just listed a whole series of things that we might do, and I have some little yellow stickies here on various areas of this guide.

Now, this guide is from OMB and it's saying to the federal government on all major capital projects, this is best practice, this is what you should do, this is the way you should accomplish your work, this is the goal that we're trying to achieve, and this document starts off with performance specifications.

It encourages the use of stipends as a

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best practice. It specifically says and promotes the use of stipends in our contract, I mean incentives in our contracts. In fact, this section right here says on all major capital projects, the use of performance work statements is mandatory, mandatory.

Interestingly enough, you know, at the Pentagon renovation, we had five things that we evaluated always in our incentive programs, five things, and interestingly enough, the OMB guide lists five things that you ought to consider evaluating in your incentives, and they're the same five.

It promotes multi-phase acquisition, exactly what the FAR has in it for design build. As a best practice, it promotes the inclusion of phase one offerers in the preparation of the phase two solicitation. It says that best practices bring those offers on board and have them right their own RFP. So OMB promotes that as a best practice, okay. It also promotes, although it doesn't use the term, the use of preambles as a

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way of doing business. It doesn't use that term exactly, okay. It talks about O&M, it promotes the use of IPT's, and specifically says that capital projects include construction, okay.

Now, you'll notice, there's a real

parallel between the things that I talk about right there and what OMB has written about in here and promoted as best practice, that ain't a coincidence. I spent a year getting it in there.

And next we're going to go into the FAR and we're going to try and write these things into the FAR, because right now people are not always certain that they should do these kinds of things. We're getting these things written into the FAR. So I'd like to suggest, these are real things that -- some of these things you might look at and say, I never want to do that, I don't want to do that, other things you might look at and say that's interesting, I might want to try that.

And I'm trying from my position and my perspective to provide you guys the top cover that you need to be flexible, to experiment, to go out

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and try new things, and to try to improve your process the way that you want to improve it, to the degree that you think these things are positive, appropriate things to accomplish. Next slide. This goes into some detail on all the steps, and the key thing here is the way that the stakeholders and the team are all involved in this process and how that grows and contracts and modifies itself as you go through the process to meet the specific steps that you're going through and to respond to the circumstances you're in. Not enough time to go through it at all today, but we'd love to sit down with your guys and kind of go through there and see what they might be interested in.

Next slide is just some of the things that we can do as a result of this that otherwise are either difficult to do or sometimes even impossible to do. Now, of course, the integrated project teams, that's a no brainer; 3D, 4D, 5D design and building information modeling that can really, really bring on board and make

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extraordinarily powerful and effective. If you try to do it in a different environment, you're

only going to get a small percentage of the impact and effect that you can get with it otherwise.

Collaborative planning and design, where can you get it from the very beginning? Now, take that value engineering process that you want to bring on early, bringing it on as early as you possibly can and then making it effective through the entire program. Early and thorough commissioning, bringing commissioning on much more quickly than most people do right now. Operations and maintenance, following RFID component tracking across the facility, live sustainability, lead constructability analysis, et cetera, okay. There's a whole series of things here that I think some of these approaches that I outlined for you earlier in the previous slide, it opens the door to these things that you'll have a very difficult time opening the door to otherwise.

So if I were to -- I'm sorry, Michael, next slide. If I were to kind of summarize a lot

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more efficiently and effectively than I have so far, what we're really talking about here is, we're talking about a three phase process or three aspects of it. The first thing is picking the right team, and that means, you know, looking at the way that the source selection is accomplished, to make sure that we pick the right people from the outset and we get good contractors, you know.

You know, more than government agencies have since the early 1950's, the government is in competition with private industry, and government agencies are in competition with one another. And I don't know what your circumstance is, but if you're like most government agencies, you are finding yourself having a great deal of difficulty competing for the top contractors out there and attracting them to your work.

You may not be having that problem, but many government agencies are, because compared with the flexibility and the dramatic change that's taking place in acquisition, in private industry, in many areas the government has lagged

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behind. And I think we have an opportunity to make ourselves more competitive with the market place and attract the best and the brightest and the most capable contractors and companies, it will come in and water your eyes with what it is that they can do for you.

Secondly, to give them the flexibility, the opportunity to succeed, and then accountability for what it is that they achieve, by providing them their requirements and requirements based solicitations.

And then thirdly, rewarding them. When they give you the performance that you want and when they excel, you reward them for doing it. And ultimately, the bottom line cost is actually going to be lower to you. And unlike most people that talk about that in theory and say it seems to me like that's probably the way it would be, I'm one of the few guys that's ever had an opportunity to build it twice.

I built it once and they flew an airplane through it, and I got to build it again,

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okay. And when I built it the second time, I built it in one-third of the time and I built it for $246 million less, because the second time I built it, I built it design build instead of design bid build.

I pulled out all the stops and I did exactly the kinds of things that we're talking about here, and it had an extraordinary impact. And then the very last thing, the last slide, Michael, and I wanted to just finish, because there was a lot of discussion about this last time, and various people talk about it, and I just want to talk about this one head on, okay, and including some of the OBO people mentioned this, okay, and this is, you know, how does design build hand the loss of that special relationship between the architect and the owner, that special bond that exists between the architect and the owner.

And I'll say it's pretty simple, it

replaces it with a special relationship with an entire team that includes the architect. And by having a special relationship with an entire team,

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you know, you have ever so much power to bring to bear on that problem.

And the last bullet here is kind of a personal note, okay. I, not too long ago, in fact, it was while I was going through my recovery from my quadruple heart bypass that I got to do the Phoenix project and respond to September 11th, okay, and you know, when I went in for my quadruple heart bypass, I did not bring in my own doctor and my own anesthesiologist and my own nurse team to watch those guys that were doing it for me. I trusted them because they're professionals. I hired the best guys that I could, and every single one of them made a profit, and I expected them to, and I was glad to pay it.

And so often I hear people say, contractors are in this to make a profit, yep, okay. But they're not born bad, okay. You know, and when they're babies, they don't have some special mark on their forehead and people look at it and go, oh my God, this is a bad one, he's going to be a contractor. Or I remember the

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movie, I think it was Naked Gun Thirty-three and a Third, when Priscilla Presley is up in the stands pounding on Montalban's chest and going, I hate you, you're a fiend, you're evil, and he pulled himself up at full height and said I was a construction contractor in a former life.

They're not born, they're made, and we make them. When we say we're going to evaluate everything about you, and it's all going to be one number, and if it's the low number, you get it, if that's the way we do business, okay, then we suffer from that, in my opinion. So there was a lot of stuff there that I wanted to put in front of you for your consideration.

GENERAL WILLIAMS: Thank you, Lee. Are there any discussions, points to be made around

either one of the presentations, the one made by the OBO team, and I have some at the very end, but any particular comments? Yes.

SPEAKER: You know, Lee, you're a really tough act to follow and your work on the Pentagon has left a really wonderful legacy, but in the

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sense of integrating processes and leveraging successes across different projects and different agencies, it occurs to me that the business transformation side of the Department of Defense includes something called the global information grid or gig, which includes geospacial information and strategic (off mike) information and a lot of operation and maintenance information. And, of course, their goal is to empower the (off mike) to have the most information at their fingertips that they can to be successful. But there are a lot of attributes of that program that really apply to building and operating and maintaining embassies, too, and I think it's worthy of your study and consideration.

GENERAL WILLIAMS: Any other questions, any other comments? Okay. Let me try to summarize all of this. This has been wonderful. We put it at this time because we wanted it to have some foundation on a full stomach, so we did it right after lunch. Let me point out two other things. Lee made -- his presentation had two

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prongs, the first of which was to speak to the current program, and I appreciate and thank you for the very kind remarks.

Yes, this is a -- there is no perfect design build version. You did you version in the Pentagon, this is our version here, it's getting some results, and it's not perfect, and it doesn't fit the book model, and quite frankly, I don't know where that one is in practice. So we are very appreciative to your comments. One of the reasons I think this panel for five years, going into the sixth year now, has been rated the top panel in the business for this reason is the

transparency and the fact that we want to hear from people. We want to hear from panel members that got something to offer. So for that particular reason, and most people who know me, and Lee does know me, that there is never an issue about a presentation, and I think that's the good part about what we have done here.

Transparency, you have to -- if you're going to be transparent, you have to be

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transparent. I've had people say -- come here and say, well, gee, I wouldn't have imagined that you would put out this much information as a government agency.

We have people who attend here, our GAO is here, we have the BMAT that does all kind of broadcasting for us and all of that, we have a lot of friends around who we want to hear, we want them. Normally the Inspector General is here, we've had staffers here, we have all kinds of people here to hear the process.

So we want to hear the Lee Evey presentation. This is about thinking, this is about new ways, and it's thought provoking. We feel that we have a pretty good script out, we have worked it for a while, and it's getting some results, as we talked about this morning, but it is not perfect. We want to continue to improve. We did Six Sigma for four years, we transitioned through the new ways to think, we're now in a lean version of Six Sigma, proceeding ahead with a good organizational structure and focus. So I am

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thankful for your comments, they were very useful.

I think that we will examine and look at them and see what we can do. Most people know that I hear everything that anyone presents, and so we will be looking at this. What makes a panel credible, quite frankly, it's to bring information, research the information. Mary Anderson is very good about that. We don't have any issues about that. So we're delighted that you could bring this forward, and we will clearly

look at them.
Now, you know you were talking to not only OBO, but you were speaking to the contracting apparatus, as well, and quite frankly, that's the majority of your comments. So we will continue to work together and see how we can continue to improve.
I'm very pleased you inserted BIM. Now, you were not here this morning, but your improvement program is -- we could have stood up the direction that we're going forward in the future right beside of that one and we're already

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there. So you and I are going to improve together, and we're going to take the one we have, and we'll just move right ahead. So we're not only at different pages, we're right on the same page.
I recall the first OMB version of this, I think it was about 14 years ago or so when it came out, and it had some things in it. I have seen this version, as well, and quite frankly, some of my thoughts have been embedded, I mean been extracted from there, as well. So I think we're in good shape. And once again, thank you for your candor, thank you for the information, and we'll put it in the proper context of thinking.
MR. EVEY: Whatever we can do to help for those things that you're interested in, if any, whatever we can do to help your folks, you know you've got access to us.
GENERAL WILLIAMS: That's right, okay. Thank you. Now we're going to move forward now into -- move to a true, since none of us have it

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yet, a true design build delivery method for the -- and provide the design build team with standard designs that equals approved construction documents.
MR. HICKS: Sir, excuse me, I'm sorry. I think Ed Denton wanted to add a little bit, one of our partners on this homework exercise, wanted

to just make --
GENERAL WILLIAMS: I'm sorry.
MR. DENTON: Would you mind a minority report?
GENERAL WILLIAMS: No, I'm very familiar with minority reports.
MR. DENTON: This is the first time.
GENERAL WILLIAMS: You're supposed to laugh now.
MR. DENTON: This is the first time I think Lee and I have been on a panel that I follow Lee, and in doing so, I have far less passion than Lee might have for design build, but I feel some things are (off mike)
First off, when you talk about (off

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mike) first delivery must be aligned with the mission and desired outcome. You know, you're doing that, and I don't dispute it at all. But for someone like myself, design build is a tool in my tool box, and you know, it's not God's answer for everything. But there are some things I thought I'd bring up, perhaps in agreement or perhaps maybe as another way to look at it. First off, Lee talked about kind of budget schedule quality protection, you know, he kind of looked to the contractor, I'm not going to let the designer off the hook. I actually feel that this is, indeed, a team, and they both own this, and that's extremely important.
Also, I recognize that you need to reward and penalize performance outside agreed upon parameters. And generally what we do is, we penalize as opposed to reward. And I think generally it's because we're not set up to accept early completion as a reward. We've agreed upon a completion on this date, and that makes us happy, and anything later than that, we say that makes us

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extremely unhappy, so I'm going to penalize you for it, by the way, I expect you to make plenty of money finishing on this date because that's the deal we made.

So, you know, I think you can argue both ways. I've been procuring designing construction services for maybe a little over 23 -- 24 years now, and it's only rare that I've actually rewarded early performance because it mattered to me. But I've certainly not necessarily applied a penalty if the reason for tardiness was one that we all accepted. But that kind of leads me to another kind of crucial thing, and that is the importance of the team. I can't underestimate that importance, I can't underestimate issues that, you know, really matter which could be everything from personality, chemistry, individual experience, all the things you're looking for. And when you add that to the fact that you continue to grow and change, that really requires the selection of the team to be a very high priority and require a lot of effort.

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It's important for the team members, before they come work with you, that they understand how you're evolving and how you're changing. And, in turn, it's important for you to look them in the face and have them tell you how they understand it and how they're going to perform in light of where you're going.

So obviously, I think we talked about it the last time, the interview is extremely important, and I can't stress it enough, because I actually think when you talk about budget schedule commitment, or probably more important, when Lee said, you know, there's the same contract, there's the same work and scope, we have different outcomes, I propose to you that generally that's 70 to 80 percent the team, and maybe another ten to 20 percent of factors that you just can't control, outside of your control, if you will, but even then, how they recover is really dependent upon the team and how they work together.

So, you know, you've got to see it, you've got to feel it, in particular your team

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member who's leading it for you has got to leave

that room saying I can work with these people, I know we'll be able to resolve problems together, because there will be problems. A couple other, you know, kind of minor points, and I don't even believe this is an issue for you, but it is for some owners, and that is, you know, and Lee mentioned this, as well, is how long does it take to pay them, how long does it take for you to recognize when you need to make a change, and how long is it going to take to process that, because that's all about a successful outcome, as well.

You certainly want everyone in that team to recognize when something is out of the ordinary, you're going to respond to it and respond to it quickly, because that's going to, I think, help you with the outcome.

And then kind of the last thing, and I think it was kind of mentioned, and I know it's important and I know it's kind of linked to the Williams 20, and that is, the RFP you send out, the documents in that RFP have got to spell out

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not only how risk is allocated, but I think it needs to kind of spell out your philosophy, and in fact, going to a lean management style, it's got to be there up front.

So you know what, we're changing and we're looking at doing things differently, and I'm going to ask you about it when you come in, because I'm looking for people to work for me who are able to change and are able to grow as we are growing here, and together, we can be successful, but without that recognition, we're not sure we can. It's just, you know, there's one document, and I think it's probably almost more important than anything else, it's fairness, you know, and I hear that a lot in the Williams 20. And you want them to understand you're going to treat them fairly and you're going to demand from them the same thing. So I can't stress enough the importance of the people who are involved, because I believe that's more to do with success than anything else.

GENERAL WILLIAMS: Ed, thank you very much, and my apologies of not recognizing you. I was just so carried away to get to the -- Lee's comments so that they would be put in the proper context. And I appreciate very much your input. And let me just mention two things that you pointed out.

I have said to my staff up front, our philosophy, the way we do business, you know, every single time that you come to an IAP or any presentation that I make, whether it's industry day or whatever, we start off with the overarching philosophy of OBO, where we've been, where are we going.

Now, if anyone today in industry or any place, but it's important to put it in the document, does not understand that it is now lean management and lean thinking that have been a derivative of another place that we've been is what the management is going to be about. If anyone who does not understand that it's BIM, full implementation, not fumbling with, we're going to go there, so industry should be getting it. I think John got it this morning, he chimed up on it. So this is important. And so you're right exactly on target, because you've got to say that before you talk about anything else, because this is the philosophy of the organization. And, yes, the element of fairness is absolutely crucial, and I think, in spite of what else somebody might hear out there, they will always put that in place, fair, a little tough, but fair, because I understand that is important, that is very important, and the perception of that is right.

The fact that we heard industry in response to concerns about difficult areas and come out with a risk allocation, let me tell you, I haven't found, and I've been in one big federal agency, I haven't found anybody else who's laid out the risk, including my friend back here, so -- as transparent as we have done that. So we have

really stepped out on that. And I'll reach a model, it might be in -- but these are important things to push forward. Are there any other questions, comments? Okay, good.

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Now, let's move to the next one, which should be a piece of cake after going through this one. This is going to be Gary, and John, and Bill Miner.

MR. MINER: Yes, sir.

GENERAL WILLIAMS: Okay.

MR. MINER: At the end of our last meeting, we were discussing this topic and it was a little bit of a cliff hanger. And I thank Lee Evey and Ed Denton for getting us back to the edge of our seats on the same topic, which is design build, design build methodology, and how OBO can best implement it or continue to improve it. Although this time around we decided that we would bench Lee Evey for obvious reasons and pull in Gary Haney representing the AIA and John Barotti, Association of General Contractors, but, of course, Lee, you're welcome to wait.

The issue here is not just about design build, but how we, or how the government, or how any owner makes his requirements known to the design build team. And I'm not going to go

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through all of the slides that I went through last time, I'm going to highlight those elements that I think are fundamental to where we are in this meeting, and that would be the last sentence on this slide, and it's a question, what more can we do to achieve full benefit from the design build method, and how can standard designs, we're talking drawings, specifications, RFP material, move closer to final construction documents.

Next slide. You may recall that I did a comparison between so called true design build and OBO's version of design build. Lee also spoke to that. Next slide. I then spent a little more time going through OBO's version of design build, how it evolved, what we thought were the pros and

cons of that.

And then the final slide here, which I'll conclude with, was to recap those things that we are currently doing, we think to get our design build material, our RFP attachments closer to final construction requirements. And I spoke to the fact that we had, and I think it was very

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successful in '06, to make a solid recommendation on the foundation design to be assumed in the bidding process. We didn't necessarily think it was the absolute correction foundation design, but it was a recommendation that the offerers could take as a benchmark, so that we would be comparing the same prices against the same conditions.

I also spoke about test fits that we tried for the first time in '06. Marcus Herbert's office develops those now and we're getting very good feedback about that, and that is instead of just giving a (off mike) program and a shell design, we're actually testing that program in the shell and giving the contractors more of the answer in terms of the interior organization that we accept and expect.

We spoke about breaking out design build contracts into classified and unclassified work, and now we're even talking about building work versus site work as a way to convey our requirements. We want to and are using more local materials, and the best way to get to that is with

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performance specifications, how we write those to protect ourselves, and make sure that we achieve the security, the safety, and the functional objectives is a continued concern.

My own concern is, next to the last bullet, I still cannot figure out why we are not seeing our design build teams reusing more of their prior design work. The SED is five years old now; many of our design builders have constructed six, seven, eight of them. I can't believe that we have to have the same design detail effort, specification effort, material

submittal process as we did back in the year 2002, 2003, I need some enlightenment on that.

And we talked about special projects that we have on our plate such as Juba, perhaps Beirut, perhaps Karachi, Brazaville may go into that category, where we will and should be looking at getting closer to true design build and less of the OBO version.

Now, with that, I'm going to save lots of time for both John and Gary to go through their

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slides and comment on what was said by myself, by Lee, and from their own perspective. And do you prefer --

MR. HANEY: I think I'm going to start.

MR. MINER: You're going to go first, yeah.

MR. HANEY: I've been haunted by that second to the last bullet since we last left, and why can't designers reuse prior design work? That's a key question, and it seems like it ought to be simple to answer, but frankly, I think it's because we're trained not to, you know, where, as Lee said, we're made, you know, we go through years of schooling that tells us it's bad to even copy ourselves, so it's almost antithetical to, especially to a design architect, my career is based on innovation, and you know, we teach every young architect they're going to be Frank Lloyd Wright. So I had to retool my thinking because, in fact, maybe the innovation that's required of me here to make a contribution is not innovative design, maybe it's an innovative tool, maybe it's

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a new way of thinking, like Lee said. Maybe there is something else here that let's me contribute to this panel in a way that's innovative, but is not necessarily about being Frank Lloyd Wright every time I come to an SED, that's a key question.

I'm going to make this a little shorter, because we've touched on this, and I think the punchlist is already out there in terms of my innovative recommendation. Why are we talking

about design build? What is true design build? Well, true design build is one that works for you, that's what Lee said. So what can we do to make this work better for you?

There is no -- let's just move ahead here a little faster, yeah, right here. On this diagram, there's no true here, there's just where you choose to fall. So Bejing Embassy is out here somewhere, you chose to do it this way, and took a certain amount of time, and a pretty fabricated house trailer is at this end, right. You just commissioned the team to go buy it.

Or somewhere in the middle, and bridging

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is also an imprecise term, but something like the Census Bureau that we did for GSA, a very large, complex project, $320 million, was design bridging. But the balance here is time versus risk. So time is important to us because we've got to get people in safe environments. We have spent a lot of time talking about managing risk. And let me tell you, if there's one thing I can say to a new board member here, it's be careful what you recommend because he'll do it. And, you know, in fact, in the 14 months I've been doing this, all of those changes were things that we recommended, some at the very first meeting, so we have to be careful what we say here because it's going to happen.

Next slide. So I think the problem now is that each SED has little components of each one of these. So the house trailer is the blast doors and furniture that I just go out and buy because you guys have designed them and picked them already.

And then there's other stuff that's sort

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of floating out there in the design world, covered walkways, shading devices, that have to do with fitting the thing to the site. And then sort of in the middle are what I would consider more bridging. So each SED has a little taste of each methodology. And I think if we could do one

thing, it would be to kind of blend it to make it a more, I use the word true, I don't know what that means, but a more cohesive process.

Next slide. One of the things that we're recommending, and it's come up a couple of times, in fact, if I can leave the committee with one idea, it's the fact that you could use this new technology called BIM or Building Information Modeling to actually have a more precise document. One of the questions here was, how do you make the documents more precise before they go out to bid.

Next slide. So we put together this demonstration. We're playing with this, as the General said, we're dabbling a little bit, and we took a model and we said, okay, we will create a simple BIM model, one of our SED's, and we're just

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going to add a second story here. And if we could go to the next.

So the power of this program is that you identify the change. This is actually a real time video of this process. So in the short time that we're watching it here, it will add that second story, not only that, it will change the structure, the mechanical, it will change the parts list, it will change.

In the middle here you see the gross square footage, and if we had the numbers or costs, that would all change in the time you saw it. So this is a powerful tool. So my innovation here is, I'm not redesigning this every time, but I could bring a methodology or a tool that would make it more precise.

And then once you add this model, OBO team working with the architect could make -- erase those funny little edges, the walkways, fit it to the site, make it responsive to climate, and have a catalog of standardized components that you could then put out and have fewer questions when

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you bid it.

MR. HANEY: Oh, this was just scrolling through each component. It was going so fast; I

wanted to slow it down, and that it magically appears. Well, it's not quite that easy. Also, this answers the other question -- next slide (off mike).

Actually, the next slide. Was there one more after this? Sorry. What you want to do is not have your existing design build teams repeat what they've done over and over. That doesn't grow the knowledge base.

In fact, what it does is it narrows the people that you have that can bid. What you want to do is make the model smart.

You want to take that thing that you have that's flat sheets of paper, now, the five year old SED, that's a plan, and a section, and you want to make it a smart model, and then you can share that with a broader range of design build bidders. So rather than having a smaller ever funneling group of bidders, you can expand

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that less, because your model is smart. That's the point in that conclusion.

GENERAL WILLIAMS: Thank you. Yes, John?

MR. BAROTTI: All right. When we get to that up there. With respect to the general contract -- with respect to the general contractors out there who are doing the work, the general consensus is very positive. They've seen things moving forward.

The things that we mentioned today, like the site readiness, the foundation recommendations, the goals for the change processes, the goals for the design reviews; we're talking about BIM. The application and test fits are all things that are, you know, two years ago were problems and now we're moving forward from here on out, so those are all positive things.

GENERAL WILLIAMS: Good.

MR. BAROTTI: If we can keep going on the slides here; one more, keep going; another one. The contractor's perspective; what more can

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be done to achieve full benefit from the design build delivery method and how can standard designs move closer to final construction documents. Again, here, what this paragraph says, basically, and I didn't talk to Lee, and -- but it says the same thing. From the contractor's perspective, the design build to a contractor is a little bit different than what you're doing.

This is more like standardization or templating like some do in the Wal-Mart, or like what the Army is doing too, and some of their centers for design right now on their typical applications. But, when we look to your mission of what you're doing, this makes a lot of sense, and that's basically what this paragraph says. So we think that it's a good choice. Next slide, please. Just very quickly, I think we know the pros and the cons, but the project team familiarity with the repeat requirements of the standardization is very important. The template application can help faster completion of the design, especially when we move forward into that

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next stage of BIM. Exactly what Gary and Lee were both talking about.

Facility security requirements are taken care of. Embassy residence, familiarity with the standard facilities, and these test fits, again, help move the standardization. Standardization is that we aren't stifled. We can still make some improvements. We need to keep focused on that.

A couple of the cons that we know about may be stifling, creativity, we've got to be careful of that, the site requirements that we have with the standard design, missed opportunities for new products and equipment, if they don't fit the standardization, so we've got to keep - stay ready with that, and any conflicts that we may have with local availability adaptability to some prescription requirements. Go on, please. Next slide, please. Oh, sorry. So, here are some opportunities for improvement that we got from our membership. When it came to

the bid overview and evaluation, it was brought up that they'd like to see more pre-bid site visits

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and regional coordination with design bid firms. Possibly, I know it's tough, but to avoid the same time congestion of the bids, that seems to be a problem because the contractors would like to bid on more, but they can't. Try to avoid the pathos and ensure realistic schedules. And the only thing I can recommend there is on the two step process is to make sure to involve the contractors in their perception of the schedule for the project. That's about the only way to do it; there's no set way of doing it.

Next; the -- like to see a little bit of improvement on the review and the decision making process, which we talked about earlier, and that's one of the goals that I think that you have.

This pertains to change orders, REAs (?); we talked about the IDR comment resolutions, trying to get them moving a little bit quicker.

There is a perception that, in many cases, the labor resources are tight, and there's a need to have a program instituted (?) to review and settle change orders, and the hopes is that

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there might be a champion committee put together to make sure that that's happening, if need be. There was talk about split packages at one time, and the only concern with that was the way that the contractors are looking at it is that they perceive the person left told them the last bag gets all of the problems, and it may; I don't know if that's true or not, but that's the perception.

I'd like to -- and as far as the -- we'd like to improve the consistency among the projects by the OBO design managers, project directors, and project executives, and site security managers, I guess that is. Next slide, please. There's a need to standardize the OBO design preferences and improve consistency, again, above staff members, in completing the design process. The next item, I believe is your goal, number 17 that was on your

list before (off mike).
Next item speaks to our security clearance issues that we've had in the past. That still appears to be a little bit of a problem out there. It got brought up by a couple of the
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members, again, so we need to stay on top of that. The contractors brought up that there's a current requirement that you cannot proceed with work until you have a final design certification. And my understanding is that you have to have a complete design before you're allowed to start work, and they'd like to get going, of course, before that; similar to the way you would on a typical faster paced project if the foundations package and the shell (?) package is off and running; don't hold up and wait for the complete design package. And then we get into BIM. Everyone has brought it up. It's being applied and we need to get there. And last, but not least, the last item that brought up was in some cases it's difficult for the contractors to come into an area and get their first permits going for foundations, and there's already well established communication between OBO and the jurisdiction; understand the contractors are still responsible, but they'd like to tap into some of your resources to help them get that first permit and up and
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going.
GENERAL WILLIAMS: That's fair. Okay; thank you, John and thank you Gary. Now, Gary has indicated that he has to depart at 3:00 p.m. I want to allow him that opportunity to make any final comments he would like to make, and also, is there a photograph?
AUDIENCE: (off mike)
GENERAL WILLIAMS: Okay. And we have to sort of disrupt it just a little bit here. We would like for Gary to say what he wants to say in departing; just temporarily he would just be away. He always will be on the string (?), and then we want the board member, I mean the panel members to

very quickly assemble where?
AUDIENCE: (off mike)
GENERAL WILLIAMS: Right here; just get up and walk right over here, and we'll take a picture with Gary so that he'll remember the crowd that he was associated with.
MR. HANEY: I'll remember the lunches, most of all. I thank you for the opportunity;

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I'll make this brief, because I have to. It has been a pleasure to serve here, and I really feel that that's a surprise. Frankly, I came here with a bit of a chip on my shoulder, and I would say I'm stopped short of saying that I'm a believer now, but I will say that I understand the enormity of the problem, now, and I didn't when I came in.
I came in thinking that, you know, as a design architect it was my job to plant a flag in the middle of the room and say something about design, and I began to realize that the real task here was to protect and safe guard people in dangerous places. So that was a revelation to me, and well, I still see myself as a design architect that's how I make my living. I had to think of how I could contribute to this panel, and I hope that I have.
GENERAL WILLIAMS: You have.
MR. HANEY: I do, in fact, feel that I've learned more than I contributed, but I hope that I made some small contribution, and I'll be happy to come back and fill in, or participate in

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any way that you would like me to, and I wish you the best.
GENERAL WILLIAMS: Well, thank you very much, Gary, and if the rest of the audience, just bare with us for five minutes; this is important. This was designed to be done after.
MR. HANEY: I'm sorry to cause this.
(Recess)
GENERAL WILLIAMS: Okay. We're going to roll right into our last one, with the view to be out at 3:30 as we planned, and that's on

commissioning, and we have Joe Toussaint and Phil Low (?) who's going to lead this on the OBO side together with S.G. and (off mike). Okay.

MR. TOUSSAINT: Thank you, General. Get settled; I would just add my deputy, Will Colston to the list, because certain events that interrupted the assembly of this, so Will has had the benefit of having some discussions in greater depth than I was able to have with MaryAnn and with this Chief (off mike).

I think as a background on this question

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or statement, which is to adding commissioning staff to the onsite team and ensure that this staff is an active participant in pre-con (?). The first thing that we needed to understand was that the genesis of the C&C Division; the Construction and Commissioning Division, formerly known as construction management. And when you, sir, came into OBO, you changed the name, and we sort of said what's the difference.

Well, the difference was that while the construction group was building buildings, it wasn't necessarily handing them over in a complete commission state to those who would then operate and maintain it, so there was a clear definition that you wanted to see that we, in execution, carried forward and turned over to our colleagues in O&M a product that was finished and ready to run.

Five years later, we still are struggling with that big C, the second C, and we've tried various things across the way. We touched a little bit philosophically, well, should

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we have a separate commissioning agent, then we decided no, no, look where we are; we're half way around the world. We have a very complicated mission. It would be so much easier if we would just have that, a contractor's responsibility.

So we put language into our contracts; that the contractor was supposed to be responsible for doing the commissioning of these facilities,

and a little bit liked the way we did safety or quality control. We put the burden, and not the most precise language, but we sort of put that out as a requirement the contractor should attend to. Three years later, we're now adjusting it. We think we're getting a little bit better; our construction folks think we're getting a little bit better, and so the existing state now, is to put, at the RFP (?) stage, the prequalification stage, we want to see what the commissioning agent is going to be.

So we asked the contractors to provide that. Is this a pass fail issue; not necessarily. So, I think we're still kind of working with some

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false teeth here. That this question and this statement is going to lead us into the first question. We have to see is who's staff this is to be added to, and then as we discuss this, we had some interesting discussions of why is it pre-con, why isn't it actually an S.G. I think you were the one who said why isn't it actually at the planning stage; sounds like VE.

So there's an issue here that is very very important to settle, and we're not going to settle it this year, but we need to get the vector (?) set, so that this year, in the '07s, we have a bit better grip on this going forward. So I would like to now turn this over to Will if he wanted to carry it to the next step, and then Phil.

MR. COLSTON: Sure; I think that synopsis was pretty good, so it gives you a real sense of what we've done with our commissioning. You know, I think the first place to start is, you know, commissioning has a lot of meanings and a lot of scopes associated with it, and to give you a real sense of what we view, or what I've seen us

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use commissioning for is number one, essentially a quality insurance check in assure that the contractor is providing the performance that we expect out of the contract. In other words, that the product that they put out, both through the

design as well as the construction, achieves our performance specifications.

But then, secondly, what we believe the commissioning process should do is to help prepare our operations and maintenance folks, who are in a separate office, to take on the responsibility of operating and maintaining this facility.

So we see it as an effort where a commissioning authority should participate through the design process, and that's the emphasis you see in this Williams 20; is that this commissioning authority should participate in the kick off meeting, and then continue to participate throughout the design process into the construction, and then ultimately into the functional performance testing proving that these systems, as designed, do meet our performance

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specifications within our contract. We also want to see this commissioning authority being responsible and assuring that we receive the deliverables, both the training as well as the manuals, that allow our facilities' folks to be able to manage this space shuttle, this new building that we've got that's highly technical; a lot of times are coming from facilities that used older equipment, older machinery that was much less advance than what they're seeing today, and so there's a real importance in being able to prepare our facilities' folks.

And so you'll see when you look at our projects, that your facilities' folks put a facilities manager on the ground six months prior to the completion of the project to start resourcing the job, understanding the equipment, observing the tests, and to make sure that they are suited and prepared to take on that responsibility. But I think as you heard from Joe, what we've done is in a lot of ways kind of nibbled around the edges. We've addressed issues

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in our contract specifications, where we know we haven't been clear, or we've addressed things like

the timeliness of deliverables.

Previously, we were receiving deliverables 90 days before the completion of the project. Now, we're moving it as far back as 9 months to hopefully get those ahead of time, get a sense of those, and be able to take the corrective measures if they're not there. Additionally, participation; we are being explicit in our contracts, that we expect those commissioning authorities that are hired to participate in the kick off meeting to be present throughout the process.

But again, I think that's addressing smaller symptoms, and one of the things I think we need to start looking at is a more global approach or more holistic approach to try to achieve the objectives that we have; those two objectives of assuring the quality and then assuring that our operations maintenance folks are prepared to take on these facilities.

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GENERAL WILLIAMS: Thank you, Will. Phil, anything?

SPEAKER: Yeah. I represent the construction and commissioning division, and I just finished the AAC Project that's in region 205 (?). As Mr. Toussaint said, how a project director in the field can improve the (off mike) performance on the second big C. It's a painful experience, even myself. How can that account for the focus on this? We include that in the contract; that a contractor should have a commission agent in his project team, but that a contractor never pays attention to it. From start, I would designing to the middle, construction, give out a commissioner's schedule, and to the end of a testing and the start up of all of the equipment, as late as the (off mike) for the commissioning plan.

So every project director, including myself, are struggling how to make it a contract to perform on this end, but the many excuse been happen, we each had to push on this area; the

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contractor said I'm busy, I'm trying to catch the schedule, I have a very tight schedule, I don't have time to talk about (off mike). You want to go for that, let's talk about that later; let me reach this contract date and (off mike) your product and he can worry about (off mike).

So that's why, and every (off mike), including the commune (?) schedule and the communing (?) plan, the (off mike) list; we never got -- found a contract in time; it's because the contract and has not been educate on this, this new program was introduced five years ago. All because the contract had to save money, not to recruit a professional commissioning agent on the project team, so we are looking from a different angle how to improve this area. Should we have a commissioning agent of our own instead of the contractor has a commissioning agent. I'm putting in the field, or we should have our own OBO staff put in the field. How to improve this, because the more we can improve, the better we can turn over facility (off mike) -- facility officer who

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would maintain this new facility.

Right now, it's still disconnected, and we would like to improve, so I really invite the advice from the industry.

GENERAL WILLIAMS: Okay. Thank you, Phil. You have heard also, S.G. Do you want to start, and then Mary Ann?

MR. PAPADOPOLOUS: Wonderful. Thank you very much for inviting me to be back again, General.

GENERAL WILLIAMS: Thank you for coming.

MR. PAPADOPOLOUS: It's very nice to see everybody. I could not help it, but notice today, you know, the previous topics of discussion, the comment of commissioning came up. It seems to be like a bad dream that's floating all over the topic.

And I also would like to subscribe to the philosophy of OBO, Lean Management and Lean

Thinking (?), so we skipped slides and presentations, but we're going to just give it the way we feel it; okay?

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GENERAL WILLIAMS: That's right; that's the William's version. Okay.

MR. PAPADOPOLOUS: A little bit of a reality check. OBO's projects are office buildings. We're not building laboratories for (off mike) anything else.

GENERAL WILLIAMS: Right.

MR. PAPADOPOLOUS: These are office buildings. The second thing is that OBO is a standard design, which means standard equipment. Another item is that OBO does not have the privilege to have available local firms that can provide maintenance and operations in their facilities, not everywhere. And also, the fact that OBO does not know what it pays, today, for commissioning.

SPEAKER: Right.

MR. PAPADOPOLOUS: Whether it is $1.00 or $100,000.00 --

SPEAKER: Right.

MR. PAPADOPOLOUS: -- out of the job --

SPEAKER: Right.

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MR. PAPADOPOLOUS: -- but do not know what that item is. Again, commissioning, I think we all need to understand what commissioning is. Commissioning is a quality insurance process.

It is an insurance; that's basically what it is, and its goal is to document that the designing intent, the scope of the job, the building is the (off mike) that meets the owner, the occupants, and the operators' requirements. It's a very simple thing. What is missing here, or what we discussed today, and what you have seen, and we had some discussions on the phone with Joe and the folks the other day. What is missing here is a different approach to the project, from a management point of view.

Right now, your commissioning, I believe

is under the execution, the program execution program, and we have another directorate which is operations and maintenance. These two items are very late.

First of all, I think these things should be merged. Either one should move to

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other, or the other move to the other one; you should not have them into two different items. And the reason for that is to address the earlier comment this morning that different color moneys; they're not, they're the same moneys, and what the idea here is to create the management approach where a job, a project, is looked upon as a life cycle basis, not as first cost mentality.

The minute you are able to merge the issue of the project delivery with the life cycle cost, we're looking at something different. BIM was mentioned a lot today with (off mike) of the technology. We just have to know how to simulate a building. I do not see why the design build contractor is not held accountable for the energy performance of the building. I think that should be part of the requirement. We have the ability to simulate and tell the owner of what this building should be using in a unit area. I'm not talking dollars; I'm talking in what's per square foot and being used per square foot. What energy is expected to be consumed by that building?

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The technology is there. Yes, it is an estimation, but again, we design the electrical loads in the building are an estimation, we design the HBC Lager (?) and estimation, we design the structure systems are an estimation, and they're all based on an estimation of whether (off mike) report tells us. Everything is an estimate. It is not an exact science. Design, and construction, and engineering is not an exact science; I'm afraid it's an art. It's still an art.

So we're suggesting that a fresher look take place at the management organization of the

commissioning and operations and maintenance, and also, we're suggesting that a performance goal be set for the design build contractor that he has to deliver. And the final item that came out of our discussions is that the commissioning authority - yes, we can apply this in different ways. The commissioning can be done by commissioning authority management or it can be done by the contractor that has a (off mike) commissioning to

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do the commissioning. They're two different approach; who does he work for? I don't think it makes any difference, because it's a documented effort, goal, that it is achieved at the end.

And also, the fact that commissioning should not be thought only as a study point when the job is done. We should be thinking along the terms of retro-commissioning. Maybe that job should be revisited five years after completion. It will be a true telling story whether O&M did the job.

This is very true, because let's look at what is -- what are the maintenance items in the buildings? What is commissioning in a building, like the office buildings of embassies? Primarily, it's HVAC (?) followed by plumbing.

Then perhaps electrical in elevators, some irrigation systems, some roofing items, but primarily, it's the HVAC, that's the big energy hog in the building, and the emergency generators. These are the items where you have a very tight commissioning approach and a very accurate

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evaluation of what you're getting is what you bought. So with this in mind, I want to just set the stage like this and turn it over to Mary Ann.

GENERAL WILLIAMS: Thank you, S.G. Mary Ann?

MS. LEWIS: Ditto. Okay. Let me just say that I have a bias towards commissioning, because we do it as a service ourselves and we've got, you know, probably a half dozen projects going on right now ranging in size from $8,000,000

to $80,000,000 in all types of facilities that have commissioning. And so the question is add a commissioning staff to the onsite team and ensure that the staff is an active participant in pre-con. The answer, in my mind, is yes.

The questions then become who and when, and in my own experience, the who is -- this is a source, an out sourced activity, to OBO. There is no way that you can have a full staff roaming the world doing this. However, it would be useful to have consultants who are certified commissioning professionals who can do this for you, and a staff

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within the OBO who are possibly certified, as well, who can manage this whole process.

And the when is early. It is at the beginning; it is in, again, I think Joe, you said it, it's like value engineering.

Do it early, yes. It is in the planning stages if this should actually begin, and it's a team effort. It is the members of the design build team, it's the mechanicals and the electricals, it is the contractor, it is a commissioning agent, it is your own staff, the commissioning staff, who form this team. And to get it into the schedule to get the deliverables and the time frames into your CPM schedule for this project are critical, because that's the way you're going to ensure that everything is done.

There are really four things that commissioning verifies. One is the installation of the equipment in systems, according to the manufacturers' recommendations. The other is performance; you want to make sure that these systems are performing. The third is

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documentation. You need to know that you have all of the manuals and the instructions that you're going to be using for the life of the facility, and fifth is the training. You need to know that your staff out there are trained and can use these systems for the next 20 years.

And so, these are things that can be

done fairly routinely. It is just a matter of discipline, and that's one of your consistent words, General; it is discipline, and I think it's something that you're moving very quickly towards, you know, a very well structured process, and it's just a matter of doing it.

GENERAL WILLIAMS: Thank you. Thank you both; thank the OBO team, as well. Are there any comments from any of the panel members on this last presentation?

MR. EVEY: (off mike) commissioning in a variety of different ways. We will (off mike) some experience. We have a lot more (off mike), and we found it much harder to do, (off mike) like you thought. It would be a much tougher problem

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then we thought, and then I can at least go through some of the challenges that we experienced, and you may or may not have similar ones, but at least know we've said what we experienced, and you can consider it.

One was that we started commissioning way too late, and there is often a tendency for that to happen. So I applaud you; you've already started to come to grips with that. But ultimately, the conclusion that we've come to, but I didn't hang around to actually try to implement it, so I don't, you know, I can't speak for the implementation phase of this personally. But that is it needs to be clearly in place, and underway, and ongoing while you're doing the design; must be an active program while you're doing the design, first thing.

The second thing is your building information modeling gives you an extraordinary opportunity to do a level of commissioning to identify problems and resolve those problems, while all you have to do is move electrons. You

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don't have to bust out concrete, you don't have to bust out steel, you just move electrons, and that's a far preferable way to do it.

Third thing was where it resided in the

organization, and we tried a variety of approaches there. We tried having the commissioning agent as an independent organization under contract to the facility operators and maintainers, and we found that that was an unsatisfactory approach; okay?

Now, that may be unique to our circumstance, and I don't mean for this to sound like it's going to denigrate the people that work in the building or anything, but I've got to say it; okay? Our perception was, a lot of them were very familiar with running a 60 year old building, and what they really really wanted was a brand new 60 year old building, because they knew how to do that; okay? And so they kept pushing to try to get to what they wanted through the commissioning process, and they were pushing the commissioners very much to try to get what they wanted; okay? And we found that an unsatisfactory approach. The

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best approach, and we tried several, bottom line, the best approach that we found was the make the commissioning process a process that was implemented by the design builder, and we made the design builder totally responsible and then held them accountable for the performance.

And that wasn't without challenges and problems, but that was the best alternative that we finally came up with, and that it requires a lot of management attention. If you don't place attention on it, that it gets kind of pushed off to the side and people start to look at commissioning as kind of like quality control inspection on steroids, and it's not that; it's something very different than that. So from my limited experience, that's what I gained.

GENERAL WILLIAMS: Yes, Ed?

MR. DENTON: I just want to add; a concept was mentioned that I think is really powerful and that is re-commissioning, retro-commissioning, any word you want to use.

These buildings over time get out of

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balance. I'm not necessarily talking about

airflow, but they do just because of normal maintenance operations; someone goes in and tweaks something and all of a sudden the downstream impacts are significant, so re-commissioning after a period of time makes a lot of sense and you can save a lot of energy.

GENERAL WILLIAMS: Excellent. Okay. You have done --

MR. BAROTTI: (off mike)

GENERAL WILLIAMS: Well, I'm going to get to you, John. We've done well up until this point. It is now 3:30, so what we're going to do is start with John, and give our panel an opportunity to make any last comments that they would like to make about today, or previous times, or whatever, and then we will proceed with the rest of the closed out.

MR. BAROTTI: Okay. Thank you, sir. The only thing I was going to say is we agree with what Lee had said there too. We found it best and we've tried it both ways, as far as commissioning

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goes; it works best, we feel when the commissioning agent works for us because we have the control about six, seven different subcontractors also with that commissioning agent, and it just seemed to work best and we prefer it that way.

GENERAL WILLIAMS: Okay.

MR. BAROTTI: Thank you.

GENERAL WILLIAMS: Excellent; Lee?

MR. DENTON: I'm sorry, but I have to say as an owner, I want the commissioning agent to report to me, because I have an architect and a contractor who must -- and all of the architects, design team, and all of the contractors' subcontractors, and I want them beholding to me, not to one individual. So I like the commissioning agent to work for me.

GENERAL WILLIAMS: I got it and I understand having been on both sides. I know what each of you are saying. Okay. Now, where do you want it (off mike)?

DR. ELLIS: Well, I really don't care who does it, but in my experience, sir, those items that were deliverable that were tied to my progress payments were usually delivered on time, and that's my observation.

GENERAL WILLIAMS: Thank you; Lee?

MR. EVEY: Just compliments another good session and you've heard more than enough from me today, so.

GENERAL WILLIAMS: Thank you; John?

MR. PAWULAK: General, (off mike) I sit on the side of the commissioning agent is an honest broker for the owner. That's where I sit; thank you very much for the meeting today, I thought it was very helpful.

GENERAL WILLIAMS: Thank you; S.G?

MR. PAPADOPOLOUS: Yes, sir. I'm just going to share a little bit of my past experience in Washington, D.C., as a consulting engineer. In office buildings, builders in the Washington area, who intend to maintain and keep their buildings, bring in their operating maintenance personnel, and in a way, informal commissioners also, into the job very early in the stage. They work very closely with the design team and they stay with the job through the construction, and the training, and the O&M, and the commissioning of the buildings.

It depends on what they want. If somebody wants to keep that property and not flip it over in five years, it's a different concept; they could care less about commissioning. But if it's something that they (off mike), that they want keep, and maintain, and maximize its benefit, they do. And again, thank you very much for having me back.

GENERAL WILLIAMS: Thank you; Matt?

MR. WALLACE: My only comments are that the experiences that I've had here so far have been very educational and I'd like to thank you for allowing me to participate.

GENERAL WILLIAMS: Thank you; and appreciate your effort, as well; Mary Ann?
MS. LEWIS: I just want to say thank you for letting me back for a day. I'm having a great
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time again, and once again have learned so much from everybody in the room; thank you.
GENERAL WILLIAMS: Good. Now, what I'd like to do now is to recognize all of the visitors. I appreciate you staying with us. It shows a level of interest and I would like for you to be introduced now, and I know most of the faces, but for fear that someone here for the first time that somebody else may not know, we'll start on this side with you, sir.
MR. OSTRA: Frank Ostra, from Ostra and Associates.
GENERAL WILLIAMS: Thank you; and, yes, sir.
MR. VORST: I'm Leon Vorst. I'm with HSMM.
GENERAL WILLIAMS: Delighted to have you; you know Mary Ann?
MS. ANDERSON: Good afternoon. Mary Anderson with Schnabel Engineering; what I'd like to do today congratulations to both the panel and, as well, as (off mike) team effort to pull this
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information together. There's a lot of information here, and I think not only have you filled and exceeded in your, you know, mission here, (off mike) research or a reference that you're going to (off mike).
GENERAL WILLIAMS: Thank you very much; okay.
MR. SCHWEITZER: Joseph Schweitzer, President of AICI-SP. This is our first year as a GC in the program and we look forward to being a good member of your team.
GENERAL WILLIAMS: And you might want to tell this audience what you told me; that you told me not to have any worry.
MR. SCHWEITZER: Not to have any worry.

So we've won now -- our first year, we've won Jubuti and Cairo, and Cairo is well underway and we just came back from our site visit, and we're confident that Jubuti will be underway (off mike) very soon.

GENERAL WILLIAMS: And you're going to get it done, right?

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MR. SCHWEITZER: We're going to get it done, sir.

GENERAL WILLIAMS: Okay. You hear that, Lee?

MR. EVEY: Yes, sir.

GENERAL WILLIAMS: Okay.

MR. STEWART: Daniel Stewart with Hill International.

GENERAL WILLIAMS: Okay.

MR. LEE: Wanchul Lee (?), I'm an architect; Wanchu Lee Associates.

GENERAL WILLIAMS: Thank you.

MR. HARPER: General, thank you for having me. Jim Harper, ISES Corporation; we're a small AA looking for our first contract, and I was the most excited person (off mike) when you said put your hand up.

GENERAL WILLIAMS: Okay.

MR. HARPER: (off mike)

GENERAL WILLIAMS: Okay; thank you. Thank you very much; yes?

MR. MARRARO: Tony Marraro with ECC

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International. I'm currently working in Bangkok.

GENERAL WILLIAMS: Thank you. Yes, sir.

MR. DIEDAM: John Diedam, Ingersoll Rand Security Technologies.

GENERAL WILLIAMS: Thank you. Yes, sir.

MR. DICKIE: Andrew Dickie, I'm with Nova International. We're in the furniture business; I'm a neighbor of Mr. Rucco's. He actually rejected my first proposed (off mike), because he's the president of our design committee and a (off mike).

GENERAL WILLIAMS: Okay. Well, that was

not liquidated damage.
MR. GRAVES: I'm Mark Graves with DMJM H&N. We are pleased to do (off mike).
GENERAL WILLIAMS: Yeah. Thank you; delighted to have you. Yes, ma'am.
MS. MONNETT: Michelle Monnett, also with DMJM H&N.
GENERAL WILLIAMS: Thank you. Yes, go ahead.
MR. COSMOS: Mike Cosmos, with Weston

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Solutions.
GENERAL WILLIAMS: Okay.
MR. SHIRVINSKI: Adam Shirvinski, with EMSI. Good to be here; a really good session.
GENERAL WILLIAMS: All right.
MR. BROWN: Bill Brown, Executive Vice President of Page Southerland and Page, and also a great session.
GENERAL WILLIAMS: All right. Now, I'm going to take a little personal privilege about these two gentlemen. I may be wrong, but naturally, I have been at every one of these sessions, and I think they have been here, as well. So they have been very strong supporters of the organization as side bench people, and I really appreciate your interest. I really do; thank you.
MR. WALDSCHMIDT: I am Dieter Waldschmidt, with Saelzer Building Security, from Marburg, Germany.
GENERAL WILLIAMS: Well, good. That's near Giesen, isn't it?

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MR. WALDSCHMIDT: Yes; near Giesen.
GENERAL WILLIAMS: Okay.
MR. DODGE: Greg Dodge, with Alutiiq Security. I've spent the last 13 years almost exclusively with State Department contracting, and the last five or six the transformation of this design build program is nothing short of amazing.
GENERAL WILLIAMS: Thank you.
MR. DODGE: There are a couple of

things, granted most -- a large part of the budget is design build, but there are other contracts, O&M, services, security, specialty contracting, and I've seen a lot of failure based on the type of contract that comes out; contract language risk; a lot of the Williams 20. And if you're not on that board over there, how do you, from industry, try to give guidance and suggestions to affect change in those types of contracts, because not everything fits into firm fix price.

There's a whole bunch of examples, but, you know, one that comes to -- there was an O&M, I'm sorry, a security contractor, state of the art

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contract, doing great work in the fairy tale of T&M, and that's gone now. But they were converted to firm fix price and were told you can only invoice for hours over seas, so your support staff has to ride on the over seas guys.

Well now, they are not a preferred contractor anymore. So how do you mitigate that risk and affect change in future procurements (?)?

GENERAL WILLIAMS: Well, you make an appointment and come over and we'll get you to sit down with the right people. We want to hear, you know, specific concerns. It sounds goofy to me. Okay; go ahead.

SPEAKER: (off mike) it's my first time here.

GENERAL WILLIAMS: Good. That's what I wanted you to let everybody know; what do you think?

SPEAKER: It was very interesting. The commissioning discussion was very enlightening. I think there are different opinions, but I personally feel that it belongs to O&M, and so

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that they know what's happening and give the complete product to the (off mike).

GENERAL WILLIAMS: Okay. Another view? Yes, ma'am.

MS. NUOCK: Valorie Nuock, with the Government Accountability Office.

GENERAL WILLIAMS: Good.
MR. KOSTA: Tom Kosta, with the Government Accountability Office. Thank you for having this (off mike).
GENERAL WILLIAMS: Thank you for coming; yes. Any --
SPEAKER: Right here, sir.
GENERAL WILLIAMS: -- yes. Forgot you Perry, I'm sorry.
MR. FOWLER: Perry Fowler, with the Associated General Contractors. Once again, (off mike) of today's session, which was very good, and I just thank, once again, (off mike) just released our contract, because of them, (off mike) available to you free. (off mike) thank you for having us and we really appreciate it.

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GENERAL WILLIAMS: Yeah, Perry, I appreciate you being here and representing your organization. Did I forget anyone?
MS. GOSHOW: Yes, sir; right here.
GENERAL WILLIAMS: Yes, ma'am.
MS. GOSHOW: I'm Nancy Goshow, from Goshow Architects.
GENERAL WILLIAMS: Thank you. Anyone else? Well, let me thank the panel, once again. Let me thank the visitors, as well, who are here and for the interest that you have in the program. I also want to thank my staff, those who serve these champions, and those who sat with us, and backed up, and also, specifically, our management support division. They're sort of behind the scenes; they're helping with security and all of that, and we'll help you on the way going out. Roberto Coquis, is the one they work for. And then finally, we want to thank Gina, once again, because I will tell you she does a tremendous job; she always tells me don't say this

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again. I don't know whether people take her outside and beat her up after I give her these applauds or not, but it's honest and I'm about

fairness, and she does a tremendous job for this organization, and I will keep saying it. Okay.

MS. PINZINO: Well, I have something to say, sir.

GENERAL WILLIAMS: Okay.

MS. PINZINO: If I could. I just wanted to thank my staff: first, I'd like to begin with Michael Sprague, who prepares the presentations and who has patiently going through every presentation today.. --

GENERAL WILLIAMS: Right.

MS. PINZINO: -- in coordinating the slides; Andrea Specht, who also works behind the scenes at every IAP but does a superb job, and last but not least Adelet Kegley Adelet Kegley who assists us in putting this event together It is a lot of work, but sir, quite honestly, we can only be as good as what our colleagues produce. We simply showcase the wonderful buildings all of you produce. That's a fair assessment and I wanted to say that.

GENERAL WILLIAMS: Thank you. Okay.

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Anything else? Okay, when is the next one, Gina?

MS. PINZINO: Well, we don't know yet, sir.

GENERAL WILLIAMS: Okay.

MS. PINZINO: I want to just remind everyone today's presentations will be posted on our website probably Monday or Tuesday of next week, and the 2007 Industry Advisory Panel meeting dates will also be posted on the website when they become available. And I urge everyone just to take note this is the website if you ever need to get any information on our meetings, past and future. So thank you again everyone.

GENERAL WILLIAMS: Okay. Thank you and be safe.

(Whereupon, at 3:45 p.m., the PROCEEDINGS were adjourned.)

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